APPENDIX RTC

The following letters were received during the Hidden Hills Solar Electric Generating System (11-AFC-2) Preliminary Staff Assessment (PSA, published May 24, 2012) comment period, and the Supplemental Staff Assessment (SSA, published June 15, 2012) comment period. These comment periods both concluded on July 23, 2012.

1	Inyo County
2	Bureau of Land Management
3	National Park Service
4	The Nature Conservancy
5	Amargosa Conservancy
6	Basin & Range Watch
7	Pahrump Paiute Tribe
8	Richard Arnold, Pahrump Piahute Tribe
9	Big Pine Tribe of Owens Valley
10	Intervenor Cindy MacDonald
11	Intervenor Center for Biological Diversity
12	Intervenor, Old Spanish Trail Association
13	Applicant, BrightSource Energy, Inc.

Following their submission, staff bracketed these letters in order to highlight the pertinent questions and issues for purposes of subsequent review and to provide "Response to Comment" in the Final Staff Assessment (FSA). For every technical section in this **FSA** where comments were received, there is an appendix or table that lists the Response to Comments.

All of the above letters follow in their "bracketed" form, except for those submitted by Intervenor Cindy MacDonald and Applicant, BrightSource Energy, Inc. Those two letters are not attached, as they were submitted in numbered format, precluding the need to manually bracket. They can be reviewed online here:

Cindy MacDonald (Comment Letter #10) along with all other PSA comment letters:
http://www.energy.ca.gov/sitingcases/hiddenhills/documents/others/psa_comments/

BrightSource Energy, Inc. (Comment letter #13):
http://www.energy.ca.gov/sitingcases/hiddenhills/documents/applicant/2012-07-23_Applicants_Comments_on_the_PSA_Set_2_TN-66319.pdf

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July 17, 2012

Commissioner Karen Douglas, Presiding Member
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Comments on the Hidden Hills Solar Energy Generating System Preliminary Staff Analysis and Resolution 2012-29 of the Inyo County Board of Supervisors

Dear Commissioner Douglas:

The County of Inyo (County) appreciates the opportunity to provide comments and indicate necessary changes to the Preliminary Staff Analysis (PSA) submitted by the California Energy Commission (CEC) staff for the Hidden Hills Solar Energy Generating System (HHSEGS) in order that the proposed project be consistent with Inyo County ordinances, regulations and standards ("LORS"). The County, as an active participant in the licensing process, is grateful to the CEC staff for addressing many of our concerns and attempting to bring the proposed project into conformance with the County's LORS, specifically its land use policies and Title 21 of the Inyo County Code governing renewable energy facilities.

Comment 1

Notwithstanding CEC staff's efforts, the PSA falls short in a number of areas including: (1) visual impacts, (2) proposed groundwater monitoring and reporting; (3) the impacts to County roads and a mechanism to enforce travel restrictions; (4) a detailed facility closure plan; (5) the lost opportunity cost impact of the project (both with and without the inclusion of proposed mitigation lands); and, (6) the socioeconomic impacts to County services. In addition to discussing each of these areas below, the County has submitted with this letter A *Resolution Of The Board Of Supervisors Of The County Of Inyo, State Of California, Adopting The Findings And Conditions Of Certification For The Proposed Hidden Hills Solar Electric Generating Station (California Energy Commission Application For Certification No. 11-AFC-2,*) ("Resolution 2012-29") which sets out the additional or modified Conditions of

Certification, to those recommended by CEC staff in the PSA and to those contained in the Gruen, Gruen + Associates report, attached hereto. These are conditions of certification that the County would impose on the project owners but for the exclusive jurisdiction granted to the Energy Commission under the provision of the Warren-Alquist Act (Pub. Resources Code § 25500). In addition to Resolution 2012-29, and also in order to assure compliance with the County's LORS pursuant to Public Resources Code section 25525, a matrix indicating the proposed project's compliance or non-compliance with the County's General Plan is attached.

It should be noted that on July 10, 2012, the Inyo County Board of Supervisors approved an agreement with the project applicant, BrightSource Energy, Inc., LLC (BSE) to process an application for the adoption of a general plan amendment and zoning reclassification. If the application is approved by Inyo County, the project would be consistent with the County of Inyo General Plan and Zoning Ordinance; however, approval of the application will not resolve the site control requirements set forth in the proposed conditions of certification or the other land use issues previously addressed by the County and referenced in the PSA, such as the merger of the numerous lots on which the project is proposed to be built and the abandonment of public roads.

Along with project conformance to the County's land use policies, there remain several areas of the PSA that continue to promote undue uncertainty for the County's welfare. Following are the primary areas of concern which are addressed by Resolution 2012-29 through additional or modified conditions of certification in order that the proposed project is deemed consistent with County LORS, in particular Title 21.

1. VISUAL IMPACTS

A chief unresolvable concern for the County and its residents is the visual impact of the proposed project on the adjacent residential community. Although the applicant maintained during the June 14, 2012 workshop in Pahrump, Nevada that the proposed project would not create a significant visual impact, such a claim is unfathomable. If the proposed project is licensed and constructed then residents will live as close as 600 feet from a heliostat field replete with approximately 170,000 mirrors encircling two, 750-foot, towers as their neighbor.

Comment 2

The County concurs with CEC staff that this significant visual impact cannot be mitigated. However, the County does not believe the proposed mitigation of an interpretative center is sufficient to off-set the vast changes being imposed on these residents. Since the impacts cannot be fully mitigated, the residents should reap some benefit from the project that they will live with daily. Title 21 requires for the mitigation of impacts to the County, including by compensating for the impact by replacing or providing substitute resources or environments. (See, Title 21, Section 21.08.040.) The County believes the idea of the interpretative center is a good start, but under Title 21 additional mitigation directed at reducing or off-setting the impacts to the local residents is required. To that end, Resolution 2012-29 requires the construction of a community center, for use by the local community and service providers. In addition, in this era of high speed communication, these residents live without reliable phone service or high-speed internet. The proposed project includes in its design a telecommunications tower and that tower should be made available to cellular telecommunication operators to bring cellular and internet service to the proposed project's neighbors. Every attempt should be made to alleviate the significant impact imposed on those residents through enhanced essential service delivery and basic amenities.

Comment 3

2. GROUNDWATER MONITORING AND REPORTING

The County has a long history of monitoring and managing the use of its groundwater resources. The County is dedicated to protecting this fragile resource and has enacted a number of ordinances to achieve that goal, including Title 21. When evaluating a proposed project's request to use groundwater, the County insists that the project proponent avoid impacts to not only the groundwater basin but also to the groundwater dependent biological resources. The County's unprecedented experience in this area has led to the establishment of detailed monitoring and mitigation plans designed specific to each proposed project. Addressed as a separate memo and attached to this comment letter is a memo addressing specific comments on the Water Supply sections of the PSA by Robert Harrington, Ph.D., R.G. of the Inyo County Water Department. Therein he outlines the requirements mandated under Title 21. The Water Supply conditions of certification should include the same level of monitoring as outlined in the Air Quality, Biological Resources and Cultural Resources portions of the PSA. In order to achieve that end and comply with Title 21, Resolution 2012-29 includes such as a condition of certification, together with other conditions necessary to bring the proposed project into compliance with the County's LORS.

Comment 4

Comment 5

On a related topic, the proposed project will trigger the groundwater monitoring and reporting requirements mandated by SBX7-6, adopted by the California Legislature in 2009 and Chaptered as Water Code section 10920 et seq. As detailed in the *Responses to the May 2012 "Socioeconomic and Fiscal Impacts of the Hidden Hills Solar Electric Generating System on Inyo County"* prepared by Gruen Gruen + Associates, absent a requirement that the proposed project owners and/or their operators report groundwater activities at the project site to the County it will result in the County failing to comply with the mandates of SBX7-6. According to the statutory provisions, failure to comply with the monitoring mandates results in a loss of grant funds. The County simply cannot risk forfeiting future grant funding. Resolution 2012 requires as a condition of certification that the project owner provide the groundwater pumping information necessary for the County to comply with Water Code section 10920 et seq.

Comment 6

3. *OLD SPANISH TRAIL AND ENFORCEMENT*

The County appreciates and supports the CEC staff's inclusion as a condition of certification the prohibition on the project owner and its contractor(s) and subcontractors from allowing truck traffic to access the project site by using Highway 127 and Old Spanish Trail. However, due to the extensive damage that use by even a few errant trucks would have on that route, the County is concerned that the condition contains no process by which the project owner would be fined. Again, Title 21 mandates that the County recover any costs caused by a project. For that reason, and to bring the proposed condition into compliance with Title 21, Resolution 2012-29 establishes a penalty for any errant truck and an obligation for the project owner to either repair damage caused by any errant truck using Old Spanish Trail and Highway 127 west of the project site or to reimburse the County for the costs of such repairs.

4. FACILITY CLOSURE PLAN

Title 21 of the Inyo County Code specifically requires the project owner to submit to the County a reclamation/revegetation plan and to post an adequate financial assurance, based on estimated costs, should the project owner fail to comply with the plan upon closure. (See, Inyo County Code, Sections 21.20.030 & 21.20.040.) Resolution 2012-29 requires both the plan and the financial assurances so as to protect its citizens from bearing the costs of dismantling a large scale renewable energy project should the project be abandoned after full and/or partial construction

and for reclaiming the underlying land. Similar requirements are required by the County in both the area of mining and telecommunication towers. In addition, for the reasons noted above, the Bureau of Land Management and a number of other counties impose similar requirements for large scale renewable facilities.

Comment 7

Resolution 2012-29 requires the submission of the reclamation plan and its estimated costs prior to the commencement of construction, in order to establish the amount of financial assurances required under Title 21 and under proposed Condition of Certification LAND-2. The provision of financial assurance is an important guarantee; without such assurance, there can be no expectation that a project owner will have either the interest or the funds to reclaim the proposed industrial site.

5. MITIGATION LANDS

Throughout the PSA, staff recommends biological and cultural mitigation in the form of the retirement of lands from economic use in perpetuity. Most of the requirements for the retirement of lands for mitigation fall within the Biological Resources (BIO) section of the PSA. However, it was noted at the July 2, 2012 PSA workshop in Sacramento by CEC staff members that the Cultural Resources analysts may include the retirement of lands to mitigate the cultural impacts caused by the project. In some instances, it appears that mitigation lands must be located within the State of California and, in at least one condition (BIO-22) the land is required to be located in California and in the Pahrump Valley. For the reasons stated below, the County objects to using any private lands within Inyo County for mitigation purposes.

Comment 8

Inyo County is unique in that less than 2% of its total land is privately owned, thus severely limiting its revenue base. The project applicant holds an option for nearly 10,000 acres of private land. The project site is 3,277 acres, leaving more than 6,000 acres subject to the project applicant's option. Should the full 10,000 acres under option be utilized as the project site and as mitigation, this single proposed project would encompass nearly 10% of the total private land holdings in the County. Moreover, even the CEC's Fiscal Consultant (Consultant) concedes that the proposed project will result in few financial benefits to the County due to its remote location and close proximity to larger services in the State of Nevada. In a County with so few opportunities to encourage the use of private lands for the economic benefit of the County and its residents, removing private lands in perpetuity for mitigation will result in a significant impact.

Comment 9

If private land within the County must be retired from beneficial use for mitigation purposes, Title 21 requires that the economic impact resulting from the removal of those lands be accounted for and further mitigated. The Consultant acknowledged at the June 27, 2012 PSA workshop that he did not include in his analysis the lost economic opportunity costs which the County would suffer as a result of the proposed mitigation lands. That analysis is essential should any of the mitigation occur on private lands in the County. Resolution 2012-29 requires that analysis as a condition of certification in order to comply with Title 21. Furthermore, if mitigation lands are to be identified after certification of the project, the resolution imposes as a condition of certification that the analysis be conducted prior to the selection of such lands for mitigation and, if such lands are selected, that appropriate mitigation be imposed to offset any identified adverse impacts to the County or to the environment.

6. SOCIOECONOMIC ANALYSIS

The *"Socioeconomic and Fiscal Impacts of the Hidden Hills Solar Electric Generating System on Inyo County "* report prepared by the Consultant fails to accurately or adequately analyze the socioeconomic impacts the County will experience should the proposed project be approved without inclusion of additional conditions. Although a thorough discussion of the Consultant's report and methodologies is included in the attached *Responses to the May 2012 "Socioeconomic and Fiscal Impacts of the Hidden Hills Solar Electric Generating System on Inyo County"*, prepared by Gruen Gruen + Associates and submitted as part of these comments, it is important to highlight the most glaring errors and why many of the Consultant's conclusions should not be accepted.

Comment 10

The Consultant's report begins on a false premise – that the construction workers, totaling nearly 1,100, will commute from their homes to the project site. The project applicant has stated a number of times that the project will likely be constructed under the terms of a project labor agreement as was Ivanpah. Under such an agreement, California union employees will be given a hiring preference. That preference will most certainly result in employees commuting from Southern California or the Inland Empire for the work week as happened with Ivanpah. Although the Consultant stated during the June 27, 2012 workshop that the analysis contained in his report would apply regardless of the residence of the actual employees (California vs. Nevada), that is simply untrue. Since the most direct route to the project site from the Inland Empire is through Inyo County, employees from

the Inland Empire would likely travel through Inyo County, rather than through Nevada. As a result, and unlike the Ivanpah project where workers traveling home to the Inland Empire do so using Interstate 15, workers traveling home to the Inland Empire or other parts of California from the HHSEGS jobsite will create demands for additional County services along the way. Service demands associated with this commuting workforce are likely to include but are certainly not limited to additional unstaffed public trash receptacles to minimize illegal dumping; enforcement of sewage discharge regulations from recreational vehicles; and traffic safety enforcement and response. In addition, the towns of Shoshone and Tecopa are both much closer to the Inland Empire than Pahrump, so a higher percentage of employees are likely to stay in Inyo County, with a correspondingly higher cost of services to be provided by the County.

Comment 11

The Consultant's analysis does not account for employee-related housing impacts and, in fact, extrapolates from its incorrect assumption that there is no basis for the County's anticipated increased service costs caused by construction-related housing. Had the Consultant more fully reviewed the potential impacts from anticipated construction-related housing he would have learned that during the construction of the Ivanpah project, Clark County, Nevada experienced a 30% increase in calls for service in Primm, where most of the Ivanpah employees resided during the work week. Moreover, had the Consultant actually visited the HHSEGS proposed project site, he would have discovered that unlike in Ivanpah, the HHSEGS proposed site is surrounded by privately owned property and that illegal "camping" on private land has at times been a problem in the area. The County maintains that it is not unreasonable to anticipate that a number of construction employees will engage in dry camping in the vicinity of the project site, or will elect to reside in the nearby communities of Tecopa or Shoshone, thereby increasing the number of employees residing in Inyo County as opposed to the State of Nevada. As shown by Clark County, there will be an increase in the demand for County services, in particular law enforcement services.

Comment 12

The County has provided an extensive estimate of the additional costs that will be incurred by the County if the project is approved. The Consultant discredits nearly every one of the anticipated impact costs provided by the County, thus substituting the Consultant's judgment for that of the County and that of its elected and appointed officials. The CEC should not disregard the judgment of the very elected and appointed officials charged with providing services to the project while accepting the conclusions of the Consultant which are based upon estimates from the project

Comment 13

proponent. When asked why he did not question the project applicant's estimate that 5% of the construction costs ($9.5 million) would be spent in Inyo County, in light of the remote location of the project and lack of retail establishments, the Consultant simply indicated that the number "seemed reasonable". It is disheartening to the County that the Consultant would not only substitute his judgment for the Inyo County Sheriff's, but would accept estimates from the project proponent that defy reality.

The fact is that the County is in the best position to estimate the potential impacts of the project to its provision of services. The County has experienced the ebbs and flows of mining, snowbirds and other events which have caused both temporary and seasonal growth in its most remote areas. This is not the first, nor the last, time the County will need to anticipate an increased need for services in its remote regions. For these reasons, the CEC should disregard the Consultant's analysis, and adopt the County's anticipated impact costs along with an annual inflationary escalator.

Comment 14

Regardless of which estimate of the impact costs of the project is utilized, the Consultant concludes that the County will be made whole through its receipt of sales and use tax derived from the project's construction. The Consultant assumes the project owner will enter into an agreement with the County to designate the project site as the point of sale for sales and use tax purposes. The Consultant states that the basis for this assumption is that the project owner entered into such an agreement with San Bernardino County on the Ivanpah project. There is no sales tax agreement regarding Ivanpah; the parties are just now negotiating that agreement and there is no reason to simply assume such an agreement between the County and applicant will be a certainty or will cover all of the County's costs. For Inyo County, realizing an increase in revenues to offset the increased costs resulting from the project is of vital importance. The people of Inyo County are not in a position to subsidize this project. In the absence of a CEC condition requiring a letter of credit or other financial assurance in the amount of $84.5 million dollars, the Consultant's assumption that those revenues will flow to the County is nothing short of cavalier.

Comment 15

The Consultant expresses uncertainty as to whether the project owner might seek an exclusion from sales and use tax through the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA). However, the Consultant notes that the applicant claims that such an exclusion was not sought for

its Ivanpah project and thereby opines that such an exclusion would not be sought for HHSEGS. However, while it is true that CAEATFA's own legal analysis makes it doubtful that the project would qualify under the current criteria, as recently as February 2011 the CAEATFA Board, during a regularly scheduled meeting, discussed developing a sales and use tax exclusion program for renewable energy generation projects. BSE was in attendance and during the public comment period expressed their concern on proposed project caps of differing types and emphasized the need for such a program. Therefore it is neither inconceivable that this option would still be forthcoming through CAEATFA or that BSE's project operator(s) would be encouraged to take advantage of such a program thereby only elevating the need for a condition of certification that a form of financial assurance be provided for the direct government service costs incurred by the County during the life of the project. **Comment 16**

It would be irresponsible for Inyo County or the CEC to assume that the costs for service impacts caused by the proposed project will be addressed by a voluntary agreement that the project owner may or may not chose to execute or that such agreement would be sufficient to cover the County's costs. Title 21 of the Inyo County Code mandates that the County recover its increased costs for providing services to the proposed project. Therefore, Resolution 2012-29 requires as a condition of certification, that the project owner must require all applicable contractors and sub-contractors to exercise their option to obtain a State Board of Equalization sub-permit to designate the project site as the point of sale for purposes of allocating all sales and use taxes to the County of Inyo, and guarantee, through the use of a consultant with expertise in the area of sales and use tax, that the project owner and its contractor(s) and subcontractors take all necessary actions to ensure that this occurs through compliance with applicable rules and regulations. It is only through such a condition that the CEC will strive to ensure that the costs of the service impacts to the County may be recovered and conform to the economic impact requirements of Title 21. Furthermore, in support of such a condition, Resolution 2012-29 imposes a condition of certification that requires the project owner to establish financial assurances of $84.5 million that would guarantee that the County will directly receive the consultant's estimated sales and use tax during the period of construction. **Comment 17**

Lastly, while there were inconsistencies in the PSA, most could be resolved through adequate financial assurances, appropriate conditions of certification and proper monitoring of natural and cultural resources. We are confident that the CEC and its staff are working toward providing energy solutions that will sustain the state while balancing the need for adequate revenues for a subdivision of the state that is mandated to provide essential services.

Sincerely,

Supervisor Marty Fortney, Chairperson
Inyo County Board of Supervisors

Attachments(4):

1. Resolution No. 2012-29
2. General Plan Consistency Matrix
3. Memorandum from Dr. Robert F. Harrington, Ph.D., R.G.
4. Gruen Gruen + Associates Report

RESOLUTION NO. 2012-29

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF INYO, STATE OF CALIFORNIA, ADOPTING FINDINGS AND CONDITIONS OF CERTIFICATION FOR THE PROPOSED HIDDEN HILLS SOLAR ELECTRIC GENERATING STATION (CALIFORNIA ENERGY COMMISSION APPLICATION FOR CERTIFICATION NO. 11-AFC-2)

WHEREAS, Inyo County supports and encourages the responsible utilization of its natural resources, including the development of its solar and wind resources for the generation and transmission of clean, renewable electric energy; and

WHEREAS, Inyo County encourages the increased use of solar radiation and wind to generate and transmit clean, renewable electric energy as a benefit not only to the citizens of Inyo County, but also to citizens of California and the United States; and

WHEREAS, the County has been participating in a variety of renewable energy planning efforts, including, but not limited to, the Renewable Energy Transmission Initiative (RETI), the Bureau of Land Management's (BLM) Transmission Corridor, Wind, Geothermal, and Solar Environmental Impact Statements, the Desert Renewable Energy Transmission Plan, the California Transmission Planning Group, and a variety of renewable energy initiatives in the neighboring State of Nevada; and

WHEREAS, on August 17, 2010 the Inyo County Board of Supervisors adopted Ordinance No. 1158, which amended the Inyo County Code by adding Title 21, the Inyo County Renewable Energy Ordinance, to encourage and regulate the development of renewable energy resources within Inyo County; and

WHEREAS, Title 21 regulates applicants that propose to construct and operate renewable energy facilities, and requires an Applicant to obtain a permit from the County or to enter into a development agreement with the County for the project; and

WHEREAS, Title 21 requires an Applicant to identify and mitigate impacts to the ecological environment of the County as well as impacts to the social, aesthetic and economic environment, including impacts to the quality of life within the County, that will result from the renewable energy project; and

WHEREAS, Title 21 requires an Applicant to mitigate impacts on the County's water resources which may be depleted by the use of water for cooling and other operational purposes which may affect vegetation, wildlife and habitat; and

WHEREAS, Title 21 requires the County to impose upon an Applicant with such reasonable and feasible mitigation measures as it finds to be necessary to protect the health, safety and welfare of the County's citizens and the County's environment, including its public trust resources, and to ensure that the County and its citizens do not bear an undue financial burden from the project; and

WHEREAS, Title 21 mitigation encompasses the following: (1) Avoiding the impact altogether by not taking a certain action or parts of an action; (2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and; (5) Compensating for the impact by replacing or providing substitute resources or environments; and

WHEREAS, Title 21 requires any person who submits an application for a renewable energy permit to submit a plan for reclamation/revegetation of the site of the facility once the facility is decommissioned or otherwise ceases to be operational and to post financial assurances to ensure completion of reclamation; and

WHEREAS, the Warren-Alquist Act (Public Resources Code Section 25000 et seq.) vests the California Energy Commission (CEC) with exclusive certification jurisdiction over siting power generation plants greater than 50 megawatts (MW), amongst other powers; and

WHEREAS, on August 5, 2011, Hidden Hills Solar Holdings, LLC, submitted an Application for Certification to the CEC to construct and operate the Hidden Hills Solar Electric Generating System (HHSEGS), a solar thermal power plant greater than 50 MW, in Charleston View in Inyo County; and

WHEREAS, Inyo County would be the lead agency for the project if not for the CEC's exclusive jurisdiction; and

WHEREAS, the CEC transmitted a request for agency participation in its certification process for the proposed HHSEGS to Inyo County on August 19, 2011; and

WHEREAS, California Government Code Section 65300 et seq. indicates that the legislative body of each county shall adopt a comprehensive, long-term general plan for its physical development, including the following seven required elements: (1) land use, (2) circulation, (3) housing, (4) conservation, (5) open space, (6) noise, and (7) safety; and

WHEREAS, the proposed HHSEGS is on lands designated by the Inyo County General Plan Land Use Element as Open Space and Recreation (OSR) and Resort/Recreational (REC), and

WHEREAS, the OSR designation provides for public parks, ball fields, horse stables, greenbelts, and similar and compatible uses and the REC designation provides for a mixture of residential and recreational commercial uses, and the proposed HHSEGS is inconsistent with these designations; and

WHEREAS, General Plan GOAL GOV-10 (Energy Resources) and Policy Gov-10.1 (Development) indicate that development of energy resources on both public and private lands be encouraged with the policies of the County to develop these energy resources within the bounds of economic reason and sound environmental health, and therefore, the Board supports the following policies: (a) The sound development of any and all energy resources, including, but not limited to geothermal, wind, biomass, and solar, (b) The use of peer-reviewed science in the assessment of impacts related to energy resource development, (c) The development of adequate utility corridors necessary for the transmission of newly generated energy, (d) Maintenance of energy opportunities on state and federal lands maintaining and expanding access, (e) Treating renewable energy sources as natural resources, subject to County planning and environmental jurisdiction; (f) Considering, accounting for, and mitigating ecological, cultural, economic, and social impacts, as well as benefits, from development of renewable energy resources; and, (g) Considering development of environmental and zoning permitting processes to ensure efficient permitting of renewable energy projects while mitigating negative impacts to county services and citizens, with a goal of ensuring that citizens of the County benefit from renewable energy development in the County; and

WHEREAS, Inyo County staff, citizens, and elected officials have been participating in the CEC's certification process for the HHSEGS, including attending CEC meetings, hearings, and workshops on the following dates: September 26, 2011, October 28, 2012, November 3, 2011, November 18, 2011, January 12, 2012, January 18, 2012, January 24, 2012, February 22, 2012, April 3, 2012, April 26, 2012, May 9, 2012, June 4, 2012, June 14, 2012, June 27, 2012, July 2, 2012, and, July 9, 2012; and

WHEREAS, Inyo County representatives have provided written correspondence to the CEC and the applicant on numerous occasions providing input into the process and germane issues, including on November 29, 2011, February 16, 2012, February 23, 2012, February 27, 2012, and March 9, 2012; and

WHEREAS, the applicant attended the Inyo County Board of Supervisors meeting on March 13, 2012, presented the proposed project to the Board, and engaged in dialogue with the Board, including representing that an application for a General Plan Amendment (GPA) would be submitted; and

WHEREAS, CEC Staff issued a Preliminary Staff Assessment (PSA) on May 25, 2012 and a Supplemental PSA on June 15, 2012; and

WHEREAS, the PSA and Supplemental PSA do not adequately address the issues raised by Inyo County previously in the proceedings, or the provision of Title 21 of the Inyo County Code; and

WHEREAS, pursuant to Public Resources Code section 25523(d), following public hearing(s), the CEC must prepare a written decision which must include findings regarding the conformity of the proposed site with "...other applicable local, regional, state and federal standards, ordinances or laws"; and

WHEREAS, in this resolution, as required of it by Title 21 of the Inyo County Code, the Inyo County Board of Supervisors identifies the findings and conditions of certification (COC) that are in addition to, or supplement, those provided in the PSA and Supplemental PSA.

THEREFORE BE IT RESOLVED, that based on all of the information received to date including but not limited to the written and oral comments and input received at the March 13, 2012 and July 17, 2012 Board of Supervisors meetings, staff reports and presentations and the applicant's representations, the Inyo County Board of Supervisors makes the following findings and establishes conditions of certification upon the project, as required of it by Title 21 of the Inyo County Code, in addition to or in lieu of those provided in the PSA and Supplemental PSA.[1]

BE IT FURTHER RESOLVED that this Board of Supervisors therefore provides the CEC with the following findings and COCs for the proposed HHSEGS, that are in addition to or in lieu of those findings and COCs provided in the PSA and Supplemental PSA, for inclusion in the final staff assessment and final certification.

Comment 17

Biological Resources – New or Revised Findings of Fact

A. Add the following new finding: Less than two percent of Inyo County remains in private ownership, and every acre restricted for the purpose of compensatory mitigation results in a significant impact. Biology-related compensatory mitigation proposed for the project exceeds 6,000 acres, including requirements to encumber private lands in Inyo County with a conservation easement in perpetuity. If private lands within Inyo County are utilized for compensatory mitigation, there will be significant impacts to the economic environment in Inyo County.

[1] Modified text is indicated with ~~strikeout~~ and underline.

Comment 18

Biological Resources – New or Revised Conditions of Certification

A. Add the following new COC: The applicant and the CEC in coordination with the County shall investigate and implement means to enhance degraded public lands (including lands designated Wilderness), rather than utilizing private lands in Inyo County for biology-related compensatory mitigation, including investigating and advocating for means to quantify restoration activities on public lands in lieu of direct compensatory mitigation.

Comment 19 Revise COC BIO-22 subparagraph 1(a)(i) to read: Selection Criteria. Compensation lands for impacts to state waters shall meet the following criteria: i. Located in California and within the Pahrump Valley. If the project owner demonstrates that suitable compensation lands are not available within Pahrump Valley, lands may be acquired in California Valley, or the California portions of Sandy (Mesquite) Valley and Stewart Valley. The applicant and the CEC shall investigate means to enhance degraded public lands, including lands designated Wilderness as an alternative to utilizing private lands in Inyo County as compensatory mitigation.

Comment 20 Add the following new COC: If private lands within Inyo County are to be used as compensatory mitigation for impacts of the project, whether such lands are selected before or after certification of the project, prior to the selection of such lands, the CEC will conduct a study of the lost economic opportunity costs which the County would suffer as a result of the conversion of the private lands to mitigation lands and of the environmental impacts that would result from such conversion and, if any such lands are selected, the CEC will impose appropriate mitigation to fully offset any identified adverse impacts to the County and/or to the environment.

Comment 21 Revise BIO-18, subsection 6 to read: Compensate Local Agencies for Increased Weed Monitoring and Abatement. The project owner and the Inyo/Mono Agricultural Commissioner shall ~~coordinate with local agricultural commissioner(s) to~~ establish an amount for a fee to be paid annually by the project owner to the local agency(ies) for increased offsite monitoring and abatement costs resulting from the construction and operation of the project.

Comment 22 Revise BIO-23, subparagraph 2, to read: Definitions. ~~"Less-than-significant effect" shall be defined as less than 20 percent change from the baseline condition or values in any of the vegetation attributes monitored that indicates a decline in the health of the mesquite and other groundwater-dependent species~~. The "baseline" for groundwater levels shall be as defined in **WATER SUPPLY-6** and includes pre-project water levels and background trends. Baseline, or pre-project values for vegetation attributes shall be established at the GDE plots and offsite reference plots prior to the start of groundwater pumping. ~~A "statistically significant decline" in groundwater elevation shall be defined as a drawdown that exceeds the background decline by 0.5 feet as described in **WATER SUPPLY-6.**~~ "Normal seasonal variation" in vegetation attributes shall be established by comparing attributes in vegetation between the peak growing season and the hottest and driest time of year for Pahrump Valley to the baseline data.

Comment 23 Replace BIO-23 subparagraph 3, with the following: Based on the results of inventory of groundwater-dependent and groundwater-influenced habitat and resources produced under BIO-23, subparagraph 13, an amount of water table drawdown that would cause a significant impact to GDEs shall be identified. Using drawdown curves calculated using representative aquifer parameters applied to the Theis method, determine the maximum pumping rate that will not exceed the threshold of significant drawdown at GDEs over the life of the project. Using this pumping rate and these aquifer parameters, determine the maximum drawdown that could occur within each monitoring well located between the project and the GDEs without exceeding the threshold of significant drawdown for any GDE. If drawdown in any monitoring well exceeds the drawdown that corresponds to a threshold of significant drawdown for any GDE, the project owner shall have 90 days to provide evidence to the CPM that the drawdown is not a result of groundwater pumping by the project. If after reviewing the evidence provided by the project

Comment 23, cont'd

owner and other relevant evidence, the CPM, in consultation with BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department concludes that the drawdown is due to groundwater pumping by the project, the CPM shall notify the project owner that its groundwater pumping is to cease.

Subsequently, the project owner may resume pumping if the CPM, in consultation with BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department concludes that the exceedance of the drawdown trigger(s) was due to factors other than the project's pumping, and that the project's groundwater pumping did not contribute to the trigger exceedance, or the water table recovers to baseline levels.

Comment 24 Revise BIO-23, Subparagraph 13 to read: The Vegetation Monitoring Plan shall include an inventory of groundwater-dependent or groundwater-influenced habitat and resources that may be potentially affected by the Project. The inventory should identify and describe habitat and resources that are dependent on or influenced by groundwater, including spring flow, base flow to streams and rivers, phreatophytic meadows, phreatophytic scrub, and riparian areas. At a minimum, baseline data shall be collected at all monitoring sites and reference sites twice annually between project approval and the start of pumping. Vegetation data collected at the GDE plots within the first two years following the start of pumping may also be used to improve the baseline dataset if corresponding monitoring wells detect no statistically significant water table drawdown at those sites. Subject to approval by the CPM, in consultation with BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, ~~and~~ the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department, if groundwater pumping ceases or is replaced by other water sources, vegetation monitoring shall continue until groundwater levels have returned to baseline levels.

Comment 25

H. Revise the first two paragraphs of BIO-24 to read: Thresholds for remedial a[illegible] defined in **BIO-23** and **WATER SUPPLY-6**, are designed to avoid impacts to the mesquite woodlands and other groundwater-dependent ecosystems (GDEs) near the project before they result in a loss of resources, or a significant impact to habitat functions and value. ~~If monitoring detects project-related impacts to any groundwater dependent ecosystems (GDEs) that meet or exceed the thresholds, the project owner shall determine which project well(s) are the source of the impact and stop pumping, modify or reduce pumping at that well(s) as necessary to restore the groundwater elevation to pre-threshold levels~~. As provided in BIO-23, if drawdown in any monitoring well exceeds the drawdown that corresponds to threshold of significant drawdown for any GDE, the project owner shall have 90 days to provide evidence to the CPM that the drawdown is not a result of groundwater pumping by the project. If after reviewing the evidence provided by the project owner and other relevant evidence, the CPM, in consultation with BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department concludes that the drawdown is due to groundwater pumping by the project, the CPM shall notify the project owner that its groundwater pumping is to cease. ~~Pumping shall cease until the project owner has provided evidence, subject to approval by the CPM in consultation with the BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, and the BLM Southern Nevada District Hydrologist and Botanist, that a reduction or modification in pumping would restore the groundwater elevation to pre-threshold levels, as demonstrated by a statistical trend analysis, refined by the most recent annual monitoring data as described in **WATER SUPPLY-6**, that compares actual to predicted water level declines due to project pumping. This provision is not a replacement for the acquisition and retirement of water rights prescribed in **WATER SUPPLY-2** to offset the project's contribution to the basin imbalance.~~

Comment 25, cont'd

Subsequently, the project owner may resume pumping if the CPM, in consultation with BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department concludes that the exceedence of the drawdown trigger(s) was due to factors other than the project's pumping, and that the project's groundwater pumping did not contribute to the trigger exceedence or that modifying or reducing pumping will restore the groundwater elevation to pre-threshold levels.

Comment 26 Revise the first two paragraphs of BIO-24, Verification to read: ~~If monitoring data demonstrate that the threshold for remedial action is met or exceeded, the project owner shall stop pumping and notify the CPM within 48 hours of detection~~.

The project owner may resume pumping only if the CPM has reviewed and approved evidence, in consultation with the BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, ~~and~~ the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department, that modifying or reducing pumping will restore the groundwater elevation to pre-threshold levels.

Comment 27 Revise BIO-26, Verification to read: At least 120 days prior to the start of any project-related site disturbance activities, the project owner shall submit to the CPM and to the Inyo County Planning Department a preliminary draft plan for review and approval. The project owner shall incorporate all required revisions and submit a final preliminary plan to the CPM no less than 60 days prior to the start of ground disturbing activities. At least 30 days prior to the start of ground disturbing activities, the project owner shall submit to the CPM and to Inyo County for review and approval evidence of a financial assurance mechanism (i.e. bond, letters of credit, trust funds, etc.) to ensure sufficient financial assurances are in place to fully restore the project site to pre-project conditions in accordance with the final preliminary plan.

At least one year prior to planned closure and decommissioning, the project owner shall submit to the CPM and to the Inyo County Planning Department for review and approval, ~~in consultation with the Inyo County Planning Department,~~ a draft final closure plan. The project owner shall incorporate all required revisions and submit a final plan to the CPM no less than 90 days prior to the start of ground disturbing activities associated with project closure and decommissioning activities. At least 90 days prior to the start of ground disturbing activities associated with project closure activities, the project owner shall submit to the CPM and to Inyo County for review and approval, evidence of a financial assurance mechanism (i.e. bond, letters of credit, trust funds, etc.) to ensure sufficient financial assurances are in place to fully restore the project site to pre-project conditions in accordance with the final plan.

Any modifications to the plan shall be made only after consultation and approval of the CPM and with the Inyo County Planning Department. The project owner shall notify the CPM and the Inyo County Planning Department no less than 90 days before implementing any proposed modifications to the plan.

Within 30 days after completion of project construction for each phase of development, the project owner shall provide to the CPM and the Inyo County Planning Department a written report identifying which items of the Closure, Revegetation and Reclamation Plan have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which items are still outstanding.

Land Use – Revised Conclusions and Recommendations

Comment 28 Revise the last paragraph of the Conclusions and Recommendations section to read:
The applicant has responded to staff's data requests regarding land use inconsistencies by stating that they would work with Inyo County to determine appropriate land use entitlements. On July 10, 2012, the applicant submitted an application for a general plan amendment and

Comment 28, cont'd

zoning reclassification. If the application is approved by Inyo County, the project would be consistent with the County of Inyo General Plan and Zoning Ordinance; however, approval of the application will not resolve the issue of placing of project structures on public roads nor will it resolve the placing of project structures across lot lines or provide the required ~~To date the applicant has not submitted applications to the county in order for the county to provide input to staff for development of appropriate conditions of certification. Staff has recommended two conditions of certification related to the Subdivision Map Act and~~ financial assurances under Title 21, the Renewable Energy Ordinance.

Land Use – New or Revised Findings of Fact

Comment 29

A. Add the following new finding: The HHSEGS proposes placing structures within public roads, which are property rights held by the public, and across property lines.

B. Add the following new finding: The HHSEGS would not be consistent with the Inyo County Subdivision ordinance or California statutes without the proposed COCs.

C. Add the following new finding: The Inyo County Board of Supervisors holds exclusive authority to abandon public roads and the take land use actions, such as merging lots or reverting acreage.

Land Use – New or Revised Conditions of Certification

Comment 30

A. Revise LAND-2 to read: At least 30 days prior to the start of any project-related site disturbance activities, the project owner shall submit evidence of a financial assurance mechanism or ~~proposal~~ agreement to the CPM and Inyo County for review and approval (i.e. bond, letters of credit, trust funds, etc.) to ensure sufficient financial assurances are in place to fully restore the project site to pre-project conditions~~.~~ in accordance with the preliminary plan required by BIO-26. Additionally, at least 90 days prior to the start of ground disturbing activities associated with planned project closure activities in accordance with the final closure plan required by BIO-26, the project owner shall submit to the CPM and to Inyo County for review and approval, evidence of a financial assurance agreement (i.e. bond, letters of credit, trust funds, etc. to ensure sufficient financial assurances are in place to fully restore the project site to pre-project conditions in accordance with the final plan.

The agreement shall allow the CEC ~~Energy Commission~~ to use the decommissioning fund to restore the property to pre-project conditions in the event that the project owner, or its successors or assigns, do not properly decommission the project or restore the property to pre-project conditions within a reasonable time following the cessation of business operations or the abandonment of the project or property for whatever reason.

The agreement shall provide that the amount of the decommissioning fund shall be calculated to fully implement the decommissioning activities as described in the preliminary and the final closure plans for the HHSEGS project and the property. The project owner shall pay for the County to retain a third party expert to review the preliminary and final closure plans and confirm about the adequacy of the decommissioning fund. The decommissioning fund shall be adjusted for inflation (every three years) and for any updates to the ~~final~~ closure plans.

With regards to the inflationary adjustment, the agreement shall specify either a process or the most appropriate inflationary index(es) to capture the actual costs to perform the necessary decommissioning work. The agreement also shall provide that, in the event that the decommissioning fund is inadequate to fully decommission the project or restore the property, the project owner, its successors or assigns, shall be liable for any amount expended by the CEC or by the County over the decommissioning fund balance and shall provide for termination of the decommissioning fund upon the completion of implementation of the final closure plan.

Verification: At least 30 days prior to the start of construction and prior to any Notice to Proceed with construction issued by the CPM, the project owner shall provide the CPM with documentation of an approved financial assurance ~~or~~agreement satisfactory to Inyo County and CPM, and at least 90 days prior to the start of ground disturbing activities associated with planned project closure activities in accordance with the final closure plan required by BIO-26, the project owner shall provide the CPM with documentation of an approved financial assurance or agreement satisfactory to Inyo County and CPM.

Comment 31

B. Add the following new COC: The project owner shall comply with the provisions of Title 16, Subdivisions, Inyo County Code of Ordinances and Streets and Highway Code Section 8310 et seq. to ensure that public roads within the project site have been abandoned by the Inyo County Board of Supervisors.

Verification: At least 30 days prior to construction of the HHSEGS project, the project owner shall submit evidence to the CPM, indicating that the Inyo County Board of Supervisors has abandoned such public roads on the project site as necessary to allow construction of project facilities in the former public roads.

Socioeconomics – New or Revised Findings of Fact

Comment 32

Insert the following language and findings of fact: Staff concludes that HHSEGS would cause a significant adverse, direct, indirect, or cumulative socioeconomic impact to the County of Inyo as a result of the increased need to provide County services directly relating to the construction and operation of the proposed project, specifically the increased services necessary from the following County departments: Sheriff's Department, Health and Human Services, Integrated Waste Management, Motor Pool, Inyo/Mono Agriculture Commissioner, Water Department, Information Services, and Assessor, based on the following proposed findings of fact:

Comment 33

1. The HHSEGS is located more than 200 miles from the Owens Valley, the population center of the County and is expected to be constructed on approximately 3,200 acres of privately owned land in the Charleston View area of the County. The project applicant holds an option to lease the HHSEGS site and other privately owned lands adjacent to the site, which, when combined with the HHSEGS site, totals nearly 10,000 acres;

Comment 34

2. Less than two percent of Inyo County remains in private ownership, and every acre restricted for the purpose of compensatory mitigation results in a significant impact. Biology-related compensatory mitigation proposed for the project exceeds 6,000 acres, including requirements to encumber private lands in Inyo County with a conservation easement in perpetuity. If private lands within Inyo County are utilized for compensatory mitigation, there will be significant impacts to the economic environment in Inyo County.

Comment 35

3. The residential area commonly referred to as Charleston View, located directly south of the HHSEGS site across Old Spanish Trail, is occupied by approximately 65 residents;

Comment 36

4. The closest communities to the HHSEGS site within which the County of Inyo provides County services to residents and visitors are the communities of Tecopa and Shoshone, located approximately 30 miles west of the HHSEGS site;

Comment 37

5. Approximately 181 residents reside in the communities of Tecopa and Shoshone and Charleston View;

Comment 38

6. The County provides non-law enforcement services to the HHSEGS site with limited local staff, primarily staffed in Tecopa, and supplements those services with staff from the County offices located in Lone Pine, Independence and Bishop;

Comment 39

7. General law enforcement services are provided through the Inyo County Sheriff's Department through two resident deputies residing in Shoshone in County-owned housing. The patrol area for the deputies patrolling the HHSEGS site encompasses 3200 miles, consisting of both paved and unpaved roads.

Comment 40

8. During construction of the HHSEGS, additional County services will be required in order to address the service needs due to the anticipated construction workforce, which will peak at nearly 1,100 employees.

Comment 41

9. The HHSEGS is anticipated to be constructed under the terms and conditions of a project labor agreement with the Kern, Inyo and Mono Trades Council, which agreement would provide hiring preferences to union employees residing in Kern, Inyo and Mono counties. If the proposed project's construction workforce needs are not met by union employees in those counties, hiring preferences will be extended to union employees residing in California. Due to the remote location of the HHSEGS site and the fact that there is not a large California union labor pool residing within a two-hour commute of the HHSEGS site, the majority of the construction workforce will commute from areas within California remote from the project site.

Comment 42

10. The HHSEGS site's close proximity to the Nevada community of Pahrump and the city of Las Vegas will result in sufficient temporary housing stock for the construction workforce. Limited temporary housing is available in Inyo County in the communities of Tecopa and Shoshone, mostly in the form of campsites. In addition, the HHSEGS site is surrounded by numerous vacant privately owned parcels upon which illegal, onsite usage, or "squatting", has occurred in the past. The applicant estimates that five percent (5%) of the construction workforce, approximately 55 employees, will reside in Inyo County. That will result in a 30% increase in the total population in the communities surrounding the HHSEGS.

Comment 43

11. The temporary increase in population will result in an increase in County services to the south east portion of the County currently served with limited resources. Local law enforcement in Clark County Nevada, the agency responsible for general law enforcement in Primm, Nevada, experienced a 30% increase in service calls in Primm during the construction of the Ivanpah project. It is likely that similar increases will be seen in both Inyo County and neighboring counties in Nevada from the increase in residents resulting from temporary construction housing.

Comment 44

12. The County estimates that the increased cost for services resulting from the HHSEGS is $11,129,466 during the construction period and $1,713,735 during the operation of the project. Specifically, those costs are estimated, based on the information available to the County as of February 16, 2012, as follows:

Comment 45

Agency/Department	Initial/ Construction	Ongoing Annual
Health & Human Services		$188,115
Assessor	$120,000	$120,000
Sheriff	$2,130,666	$1,269,120
Public Works	$8,157,000	$78,500
Information Services	$237,600	
Agricultural	$150,000	$50,000
Waste Management	$156,000	
Motor Pool	$33,200	
Water Department	$145,000	$8,000
Total	**$11,129,466**	**$1,713,735**

Comment 46

The increased costs identified by the County will not be off-set by the estimated increase in property tax. In addition, due to the location of the HHSEGS in a remote area of the County and the HHSEGS site's close proximity to large communities in Nevada, the County is not expected to benefit from other economic benefits which generally flow from projects similar to the HHSEGS.

Comment 47

13. Title 21 of the Inyo County Code sets forth the policy and permitting requirements of the County for renewable energy facilities. Title 21 governs the siting, licensing and construction of the proposed project. Title 21 includes a definition of "environment" which exceeds that contained in the California Environmental Quality Act and includes economic environment of the County. One of the stated purposes of Title 21 is "to recover the costs of increased services" resulting from the construction of a facility such as the proposed project. Mitigation measures mandated by Title 21 include those necessary to "ensure that the County and its citizens do not bear an undue financial burden from the project."

Comment 48

14. The estimated cost of construction of the HHSEGS exceeds $5,000,000 and, as such, the local sales and use taxes from the construction contractors may be allocated to the local jurisdiction of the specific construction jobsite by the contractor and subcontractors. The designation of the HHSEGS jobsite for purposes of sales and use tax would result in the County receiving revenues to off-set the economic impacts resulting from the increased service costs caused by the HHSEGS.

Comment 49

15. The applicant indicated a willingness to maximize the tax benefits to the County. (Data Request Set 2-F, Response 194). In order to maximize such benefits it is necessary that the County retains a consultant with expertise in the area of sales and use tax, which consultant should be funded by the project owner, so as to assure the proper procedures and designations are met.

Comment 50

16. The May 12 Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County prepared by the CEC, has unequivocally stated that the County of Inyo will receive in excess of $84.5 million in sales and use tax during the three-year construction period for the HHSEGS.

Socioeconomics – New or Revised Conditions of Certification

Comment 51

A. Add the following new COC: SOCIO 2 (Local Sales and Use Tax)

1. The project owner shall require that all qualifying contractors and subcontractors exercise their option(s) to obtain a Board of Equalization sub-permit for the HHSEGS jobsite and allocate all eligible sales and use tax payments to the County of Inyo. Prior to commencement of any construction activity on-site, the project owner will require that the contractor or

Comment 51, cont'd

subcontractor provide to the County of Inyo a copy of the contractor's or subcontractor's State of California Board of Equalization (BOE) account number(s) and sub-permit(s), or a statement that use tax does not apply to their portion of the project. To accomplish this, project owner shall either cause its construction contractor to treat the project in accordance with Title 18 CCR Sections 1521(b)(2)(B), 1521(c)(13)(B) and 1826(b), for sales and use tax purposes or form a "Buying Company" as defined in the State of California BOE Regulation 1699(h), or take such other action as directed by the consultant and County. The project owner can adopt an alternate methodology to accomplish this goal if such methodology is approved by the County prior to commencement of construction.

Comment 52

2. The project owner shall be required to reimburse the County for all costs associated with any expenses it incurs for consultants with expertise in sales and use tax allocation, hired by the County, to assist the project owner and its contractor and subcontractors to complete and submit all documents necessary to register the HHSEGS project site as the source of all sales and use taxes in conformance with the laws and regulations of the BOE. The consultant may set out the necessary procedures which the project owner, its contractor and all qualifying subcontractors shall follow in order to maximize the County's receipt of sales tax.

Comment 53

3. If project owner receives an exclusion of applicable sales and use tax payable to the County under Senate Bill 71 under the State Public Resources Code (Section 26003 et seq.) and the California Alternative Energy and Advance Transportation Financing Authority (CAEATFA), project owner shall pay to the County of Inyo $84.5 million, which represents the estimated amount of the sales tax which would have been received if project owner had not obtained such exclusion, as set forth in the "Socioeconomic and Fiscal Impacts of the Hidden Hills Solar Electric Generating System on Inyo County" dated May 2012.

Comment 54

4. Within five (5) days of certification, project owner shall deliver to the County a letter of credit, which may be drawn upon as expressly set forth below. The amount of the letter of credit shall be $84.5 million.

Comment 55

5. The letter of credit may be reduced annually to an amount equal to the then amount of the letter of credit minus the then cumulative total amount of Local Sales and Use Tax attributable to construction of the proposed project that the BOE records indicate were allocated to the County of Inyo. Project owner may replace the existing letter of credit with a new letter of credit in an amount equal to the new amount required as determined using the calculation method described above.

Comment 56

6. Within 30 days after the completion of construction of the proposed project, the consultant, project owner and County shall review the BOE records to determine if the cumulative Local Sales and Use Tax attributable to construction of the proposed project and allocated by the BOE to the County is less than the estimated $84.5 million; if so, the project owner shall pay such difference within sixty (60) days of the date the County notifies the project owner of the deficiency. If the project owner fails to pay such difference within such time period, the County of Inyo may draw upon the letter of credit in an amount equal to the deficiency. Any disputes between project owner and the County shall be resolved by the CEC.

Comment 57

7. Upon payment in full of the amount of the $84.5 million (whether through allocations from the BOE, direct payments under this section, and/or draws upon the letter of credit), or upon abandonment of the proposed project, the letter of credit shall be returned to the project owner.

Comment 58

8. The letter of credit is intended as mitigation required under Title 21 of the Inyo County Code by way of requiring security to the County for the receipt by the County of Local Sales and Use Tax, which is anticipated to provide revenue necessary to the County to off-set the increased service costs caused by the proposed project when combined with the anticipated increase in property tax revenue from the project site. In the event the proposed project is not constructed, is only partially constructed, or is reduced in size, the letter of credit obligation and the obligation to pay the County of Inyo any deficiency with respect to the $84.5 million shall be reduced in size, the letter of credit obligation and the obligation to pay County any deficiency with respect to the $84.5 million shall be reduced accordingly through a revised estimate established by the consultant. Project owner shall provide the information needed by the consultant and County to make this revised estimate.

Verification: The project owner shall further provide proof of the establishment of the letter of credit in the amount of $84.5 million and shall further provide confirmation from Inyo County of the hiring of a consultant at project owners' expense.

Comment 59

B. Add the following new COC: SOCIO-3 (Economic Mitigation on Private Lands within Inyo County)

1. The applicant and the CEC, in coordination with the County, shall investigate and implement, means to enhance degraded public lands (including lands designated Wilderness), rather than use private lands in Inyo County for compensatory mitigation, including investigating and advocating for means to quantify restoration activities on public lands in lieu of direct compensatory mitigation.

Comment 60 If private lands within Inyo County are to be used as compensatory mitigation for impacts of the project, whether such lands are selected before or after certification of the project, prior to selection of such lands, the CEC should cause a study of the lost economic opportunity costs which the County would suffer as a result of the conversion of the private lands to mitigation lands and the environmental impacts what would result from such conversion and, if any such lands are selected, that the CEC impose appropriate mitigation, including economic mitigation mandated by Title 21 of the Inyo County Code of Ordinances, to fully offset any identified adverse impacts to the County and/or to the environment.

Traffic and Transportation – New or Revised Conditions of Certification

Comment 61

A. Revise COC TRANS-2 (Right-of-Way) as follows: Prior to any ground disturbance, improvements, or obstruction of traffic within any public road, the project owner shall dedicate to the County of Inyo 24 feet of right-of-way along Old Spanish Trail Highway for the length of HHSEGS site. The configuration of driveways into the HHSEGS site do not allow for rights-of-way for traffic transitions within the limits of the HHSEGS site. The drive locations shall be reconfigured to accommodate traffic transitions within the limits of the property boundaries or additional right-of-way beyond the HHSEGS site shall be acquired and dedicated to Inyo County along the Old Spanish Trail Highway.

Revise Verification: Prior to the start of construction, the project owner shall provide evidence to the CPM that the dedication of right-of-way to and accepted by Inyo County has been completed.

Comment 62 Add the following new COC TRANS-2A (Pavement Preparation/Widening) as follows: Prior to any ground disturbance, other improvements, or other obstruction of traffic within any public road, the project owner shall apply for and receive an encroachment permit from Inyo County for the construction and completion of construction of an asphalt concrete overlay on Old Spanish Trail Highway and pavement widening including transitions to accommodate the turning movements along Old Spanish Trail Highway into and out of the HHSEGS site.

Add Verification: Prior to the start of onsite construction, the project owner shall provide evidence to the CPM that the construction of asphalt concrete overlay and turn lanes into and out of the HHSEGS site have been accepted by Inyo County.

Comment 63

C. Revise Verification of COC TRANS-3 to read: Prior to the start of site mobilization, the project owner shall photograph or videotape all of the affected public roads, easements, right-of-way segment(s), and/or intersections (including the portion of the Old Spanish Trail located to the west of project). The project owner shall provide the photographs or videotape to the CPM and the affected jurisdictions (California Department of Transportation (Caltrans), Nevada Department of Transportation (NDOT), and Inyo County). The purpose of this notification is to request that these jurisdictions consider postponement of any planned public right-of-way repair or improvement activities in areas affected by project construction until construction is completed, and to coordinate any concurrent construction-related activities that cannot be postponed.

If damage to public roads, easements, or rights-of-way is identified by the project owner or the affected jurisdiction ~~occurs during construction~~, the project owner shall immediately notify the CPM and the affected jurisdiction(s) to identify the section of the public right-of-way to be repaired. At that time, the project owner shall apply for, receive and comply with all conditions of an encroachment permit from the affected jurisdiction and establish a schedule for completion and approval of the repairs. Following completion of any public right-of-way repairs, the project owner shall provide the CPM letters signed by the person authorized to accept the repairs in the affected jurisdiction(s) stating their satisfaction with the repairs. If, in the opinion of the affected jurisdiction(s), the project owner is not timely in completing the required repairs, the jurisdiction(s) can, at its discretion, complete the repairs with its own staff or contract with an independent contractor to complete the repairs at the expense of the project owner. The project owner will reimburse the affected agency(ies) for the expense of the repairs.

Comment 64

Revise COC TRANS-4 (Truck Route) as follows: The project owner shall require all construction truck traffic use State Route 160 for all access to and from the project site. Throughout the construction and operation of the project, the project owner shall document, that all trucks access the project site using Nevada State Route 160 and shall investigate, evaluate, and ~~attempt to~~ resolve all project truck-related complaints. The project owner or authorized agent shall:

- Use the Traffic Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each traffic complaint;
- Attempt to contact the person(s) making the traffic complaint within 24 hours;
- Conduct an investigation to determine the transportation company in the complaint and;
- Submit a report documenting the complaint and actions taken.

The report shall include: a complaint summary, including the final resolution and, if obtainable, a signed statement by the complainant stating that the truck route problem has been resolved to the complainant's satisfaction.

The project owner will pay a $10,000 penalty to Inyo County for each truck that accesses the site using the portion of the Old Spanish Trail Highway to the west of the project. This penalty shall be in addition to the restoration of any damage to the portion of the Old Spanish Trail to the west of project caused and addressed in accordance with TRANS 3.

Verification: The project owner shall include this specific route in its contracts for truck deliveries and provide the CPM with a copy of the transmittal letter to the contractors specifying the truck route.

Comment 65 Revise COC TRANS-5 (Traffic Control Plan, Heavy Hauling Plan, and Parking/Staging Plan) as follows: Prior to the start of construction of the HHSEGS, the project owner shall prepare a Traffic Control Plan (TCP) for the HHSEGS's construction and operations traffic. The TCP shall address the movement of workers, vehicles, and materials, including arrival and departure schedules and designated workforce and delivery routes.

The project owner shall consult with the Department of Transportation (Caltrans) District 9 office, Nevada Department of Transportation (NDOT) and Inyo County in the preparation and implementation of the Traffic Control Plan (TCP). The project owner shall submit the proposed TCP to Caltrans District 9, NDOT, and Inyo County in sufficient time for review and comment, and to the CPM for review and approval prior to the proposed start of construction and implementation of the plan. The Traffic Control Plan (TCP) shall include:

- Provisions for redirection of construction traffic with a flag person as necessary to ensure traffic safety and minimize interruptions to non-construction related traffic flow;
- Placement of necessary signage, lighting, and traffic control devices at the project construction site and lay-down areas;
- A heavy-haul plan addressing the transport and delivery of heavy and oversized loads requiring permits from ~~the California Department of Transportation (~~Caltrans~~)~~, ~~Nevada Department of Transportation (~~NDOT~~)~~ other state or federal agencies, and/or the affected local jurisdictions;
- Location and details of construction along affected roadways at night, where permitted;
- Temporary closure of travel lanes or disruptions to street segments and intersections during construction activities;
- Traffic diversion plans (in coordination with Caltrans, the County of Inyo and NDOT) to ensure access during temporary lane/road closures;
- Access to residential and/or commercial property located near construction work and truck traffic routes;
- Insurance of access for emergency vehicles to the project site;
- Advance notification to residents, businesses, emergency providers and hospitals that would be affected when roads may be partially or completely closed;
- A plan for monitoring LOS during construction on SR 160 and Old Spanish Trail Highway. The applicant shall report LOS findings to the ~~Energy Commission~~CEC's CPM as necessary;
- Assessment and implementation, if needed, of coordinated work hours and arrival/departure times outside of peak traffic;
- A coordinated park-and-ride program or rideshare program designed to transport construction workers to the project site via a van or bus service.
- Identification of safety procedures for exiting and entering the site access gate;
- Parking/Staging Plan (PSP) for all phases of project construction and for project operation.

For any activity on public roads, the project owner shall apply for, receive and comply with all conditions of an encroachment permit from the affected jurisdiction.

Verification: At least 60 calendar days prior to the start of construction, the project owner shall submit the TCP to the applicable agencies for review and comment and to the CPM for review and approval. The project owner shall also provide the CPM with a copy of the transmittal letter to the agencies requesting review and comment, and a copy of the encroachment permit issued by the affected agency for any activities on a public road.

At least 30 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters received from the agencies, along with any changes to the proposed development plan, to the CPM for review and approval.

Comment 66

Visual Resources – New or Revised Conditions of Certification

A. Add the following new COC: The applicant/project owner shall provide a community center with parking. A detailed plan shall be developed.

Verification: At least 120 days before project commencement a detailed plan shall be submitted to the CPM for review and approval, and to Inyo County, affected Tribes and other stakeholders for review and comment. Plan details shall include:

a.) Parking and visitor area surface treatments;

b.) Landscape planting and irrigation plan;

c.) Parking area plan indicating lighting, parking striping, ingress and egress;

d.) Structural elements material finishes and details.

(a-b-c-d above may all be incorporated into the landscape plan required in VIS-2 and lighting plan required in VIS-3).

Water Supply – New or Revised Findings of Fact

Add the following new finding: With the proposed COCs, the project will protect the County of Inyo's citizens and environment from impacts related to groundwater pumping.

Water Supply – New or Revised Conditions of Certification

Comment 67

A. Revise the first paragraph of WATER SUPPLY-6 to read: The project owner shall submit a Groundwater Level Monitoring, Mitigation, and Reporting Plan to the CPM and to the Inyo County Water Department for review and approval in advance of construction activities and prior to the operation of onsite groundwater supply wells. The Groundwater Level Monitoring, Mitigation, and Reporting Plan shall provide detailed methodology for monitoring background and site and off-site groundwater levels. The monitoring period shall include pre-construction, construction, and Project operation. The plan shall establish pre-construction and Project-related groundwater level trends that can be quantitatively compared against predicted trends near the Project pumping wells and near potentially impacted resources.

Comment 68

B. Revise WATER SUPPLY-6, A.1 to read: A well reconnaissance shall be conducted to investigate and document the condition of existing water supply wells located within 3 miles of the project site, provided that access is granted by the well owners. The reconnaissance shall include sending notices by registered mail to all property owners within a 3 mile radius of the project area., shall identify the owner of each well, and shall include the location, depth, screened interval, pump depth, static water level, pumping water level, and capacity of each well. The plan should include, as feasible, agreements from the owner of each well approving monitoring activities.

Comment 69

Revise the first paragraph of WATER SUPPLY-8 to read: The project owner shall submit a Groundwater Level Monitoring, Mitigation, and Reporting Plan to the CPM and to the Inyo County Water Department for review and approval in advance of construction activities and prior to the operation of onsite groundwater supply wells. The Groundwater Level Monitoring, Mitigation, and Reporting Plan shall provide detailed methodology for monitoring background and site and off-site groundwater levels. The monitoring period shall include pre-construction, construction, and Project operation. The plan shall establish pre-construction and Project-related groundwater level trends that can be quantitatively compared against predicted trends near the Project pumping wells and near potentially impacted resources. The plan shall include a model for predicting changes in the groundwater flow system resulting from the Project which

Comment 69, cont'd

has the capability to assess changes in hydraulic head, flow rate, flow direction, and water budget and shall include model runs which predict effects of the planned groundwater pumping by the Project on GDEs and predictions of the level of groundwater pumping that will cause significant impacts on such habitats and resources. The Project Owner shall also use the model to provide an evaluation of the sustainability of the water supply for the life of the project, including the cumulative sustainability when considered with other pumping occurring or projected to occur in the groundwater basin.

~~This condition proposes a threshold for significant impacts to groundwater-dependent vegetation caused by water level decline due to Project groundwater pumping. This condition also proposes mitigation that would, if initiated, reduce the impact to a level that is less than significant.~~

The plan shall also include:

i. Provisions for initiation of water level monitoring as soon as wells are available and results will be publicly available;

ii. A plan for logging and aquifer testing of all new production wells;

iii. A plan for verifying the predictive tools described above and for revising or recalibrating the tools as necessary.

iv. A plan for revising thresholds as dictated by new data concerning system response to Project operation.

v. In cooperation with U.S. BLM and if permission is granted by BLM, the applicant shall fund and construct a monitoring well approximately ½ mile west of the Stump Springs ACEC for inclusion in the monitoring well network.

vi. An enforceable commitment based on monitoring data and significance thresholds, to implement mitigation measures as necessary.

Comment 70 Revise WATER SUPPLY-6.C.4 and WATER SUPPLY 8.C.5 to read: ~~After the first five-year operational and monitoring period the CPM shall evaluate the data and determine if the monitoring program for water level measurements should be revised or eliminated. Revision or elimination of any monitoring program elements shall be based on the consistency of the data collected. The determination of whether the monitoring program should be revised or eliminated shall be made by the CPM.~~ Groundwater elevations shall be measured throughout the life of the project at least twice per year, and reported to the CPM and to the Inyo County Water Department. The County will report these data to the California Department of Water Resources as part of the California Groundwater Elevation Monitoring Program.

Comment 71 Revise the Verification section of WATER SUPPLY-8 in each instance where a report or information is to be submitted to the CPM to read: ...to the CPM and to the Inyo County Water Department.

NOW, THEREFORE, BE IT FURTHER RESOLVED that, based on the information available to date and with incorporation of the findings and COCs delineated above, this Board of Supervisors finds that that the proposed HHSEGS minimizes potential social, economic, and environmental impacts to the extent feasible, and that the reclamation plan, financial assurances, and other conditions incorporated herein adequately safeguard the health, safety, and welfare of the County's citizens, the County's environment (including its public trust resources), and the County's financial well-being.

BE IT FURTHER RESOLVED that, based on the information available to date and with the incorporation of the findings and COCs delineated above, along with the findings and COCs set out in the PSA, this project would comply with Title 21 of the Inyo County Code.

PASSED AND ADOPTED this 17th day of July, 2012 by the following vote of the Inyo County Board of Supervisors:

AYES: Supervisors Arcularius, Cash, Pucci, Fortney and Cervantes
NOES: -0-
ABSTAIN: -0-
ABSENT: -0-

Chair, Inyo County Board of Supervisors

ATTEST: Kevin Carunchio
Clerk of the Board

By _____
Patricia Gunsolley, Assistant

Comparison of the Hidden Hills Solar Energy System to Applicable Goals & Policies of the Inyo County General Plan

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Condition in PSA	Identified by PSA as LORS?
GOVERNMENT ELEMENT		
Goal GOV-1: Work with Agencies, Utilities, and Native American Tribes to promote consistency with the County's General Plan **AND** **Policy GOV-1.1/Plans for Agencies, Districts, Utilities, and Native American Tribes:** The County shall work with federal and state agencies, local districts, utilities (e.g., LADWP), and Native American tribes to ensure that they are aware of the contents of the County's General Plan and work with them to ensure that their plans are consistent with the County's General Plan to the greatest extent possible.	**Consistency:** Compliant. A number of public hearings on the project have been held in 2011-2012.	No.
Goal GOV-2: To ensure planning decisions are done in a collaborative environment and to provide opportunities of early and consistent input by Inyo County and its citizens into the planning processes of other agencies, districts, and utilities.	**Consistency:** Compliant. A number of public hearings on the project have been held in 2011-2012.	No.
Policy GOV-2.2/Public Participation: The County shall work with federal and state agencies, local districts, utilities (e.g., LADWP), and Native American tribes to ensure that the County and the public are involved early in any planning processes and that routine feedback and public input is requested.	**Consistency:** Compliant. A number of public hearings on the project have been held in 2011-2012.	No.
Policy GOV-3.1/No Net Loss: The County shall work with federal and state agencies, local districts, utilities (e.g., LADWP) and Native American tribes to ensure that land exchanges do not result in a net loss to the	**Consistency: Non-compliant.** Preliminary assessment of the project suggests mitigation in the form of acquisition of off-site lands for habitat/habitat enhancement. However,	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
County's tax base or revenues.	such mitigation would result in a net loss of County land. Compliance could be met based on the addition of the County's Conditions of Certification.	
Policy GOV-3.2/Private Land Increase: The County shall work with federal and state agencies, local districts, and utilities to find opportunities to expand private land ownership in the County through land transfers and other mechanisms.	**Consistency: Non-compliant.** Preliminary assessment of the project suggests mitigation in the form of easements on off-site lands for habitat/habitat enhancement. However, such mitigation would result in a net loss of private land. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Goal GOV-4.1/Federal Land Disposition & Acquisitions: It is the policy of the Board that the design and development of all federal and state land dispositions and acquisitions, including land adjustments and exchanges, be carried out to the benefit of the citizens of the planning area to ensure the following: a. That the County property tax base shall be maintained unless the Board determines there is an overriding benefit to the County. b. That the private property interests including, but not limited to, land patents, drilling rights, mining claims, easements, rights-of-way and forage rights are protected and enhanced. c. That residents within the planning area shall suffer no adverse aggregate economic impacts. d. That incentives be developed to provide an increase in local economic development by increasing, where possible, the amount of private and non-federal and non-state land within the planning area. e. That private use of federal and/or state controlled land within the planning area be increased in order to enhance opportunities for local economic development. f. That federal and/or state land agencies are discouraged from acquiring any private lands or rights in private lands within the planning area without first coordinating with the County. g. That federally and/or state managed lands that are difficult to manage or which lie in isolated tracts, or that could contribute to orderly expansion of existing communities	**Consistency: Non-compliant.** Comment 72 Preliminary assessment of the project suggests mitigation in the form of easements off-site lands for habitat/habitat enhancement. However such mitigation would result in a net loss of County land. Compliance could be met based on the addition of the County's Conditions of Certification.	

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
should be considered for exchange or sale to private ownership. h. That the County be notified of, consulted about, and otherwise involved in all federal and state land adjustments in the planning area. The Board may review all proposed changes to determine if the proposals are in the best interest of the County. i. The Board may review and make recommendations on proposed public land withdrawals for hazardous and non-hazardous waste storage as well as the types of such waste. j. That before federal and state agencies change land uses, impact studies on land uses are conducted at the expense of the agency proposing the change and necessary mitigation measures adopted in coordination with the County. Impact studies should address community stability, local custom and culture, flood prone areas, access, or any other issue identified as a concern to the County. k. Due to the extensive state and federal ownership in the County, it is noted that the management of these areas should include: provision for continued and improved access through and within the County; continued provision of public recreational facilities and access; multi-use management where applicable; and interconnection or coordination of state, federal, and local facilities and programs when possible.		
Goal GOV-5/Protection & Development of Water Resources **AND** **Policy GOV-5.1/Water Management:** It is the policy of the County to be part of the planning, development and management of its water resources in coordination with federal, state, and any water managing districts. Resolution 99-43 sets forth the County policy on extraction and use of its water resources. That policy is to protect the County's environment, citizens and economy from adverse effects caused by activities relating to the extraction and use of water resources and to seek mitigation of any existing or future	**Consistency: Non-compliant.** Preliminary assessment of the project indicates that the project could exacerbate overdraft conditions, contribute to water level decline for groundwater dependent vegetation, and substantially lower water levels in neighboring domestic wells. However, with implementation of mitigation measures designed to ensure adequate water availability - to include acquiring and retiring water rights and a structured program of water level monitoring – such potential impacts to water resources should be maintained at less than significant levels. Compliance could be met based on the addition of the County's Conditions of Certification.	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
adverse effects resulting from such activities.	Comment 73	
Goal GOV-7/Provide for Recreational Activities	**Consistency:** Unknown. The County has prepared a socio-economic study to document the likely impacts and needs created by the project's influx of construction workers (+1,000 workers) and subsequent solar plant workers. It is unresolved how the project proposes to subsidize facilities such as parks/recreation facilities that such a large and temporary increase in population will require.	No.
Goal GOV-8/Wildlife & Fisheries **AND** **Policy 8.1/Management of Wildlife & Fisheries:** Management of wildlife, including fish, game animals, non-game animals, predatory animals and Threatened, Endangered, Sensitive, Candidate or Management Indicator Species, under all jurisdictions, must be grounded in peer-reviewed science and local input. Wildlife management plans should identify and plan for mitigation of negative impacts to the project area's economy and environment and to private property interests and customary usage rights of its citizens. Therefore, the following are the policies of the County: a. The County should cooperate with federal and state agencies who oversee the protection and recovery of federal and state listed threatened, endangered, sensitive or candidate species and their habitat. b. The County may adopt local recovery plans as allowed under the Endangered Species Act. c. Federal and state agencies shall prepare a plan in coordination with the County before the introduction or re-introduction of any species onto public or private land that is likely to impact the planning area. d. The County supports wildlife management that: 1. Enhances populations of game and non-game species native to the project area. 2. Recognizes that enhancing non-native game and non-game species may negatively impact	**Consistency:** Compliant. Preliminary assessment indicates the project will have significant impacts on a number of species. However, mitigation has been developed for the project that will decrease impacts to less than significant levels and satisfy regulating agencies such as Bureau of Land Management (BLM) and Department of Fish & Game (DFG). However, such mitigation measures include off-site mitigation, which at this time is still being investigated. Should such mitigation prove unworkable, then impacts may be significant and immitigable.	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
native species and rangeland ecosystems. 3. Increase wildlife numbers where practicable that is not in conflict with existing economic uses or ecosystem health. 4. Recognizes that large game animals compete for forage and water with other economic uses. 5. Supports the need for a private property compensation program for certain wildlife damages.		
Goal GOV-10/Energy Resources **AND** **Policy GOV-10.1/Development:** Development of energy resources on both public and private lands be encouraged with the policies of the County to develop these energy resources within the bounds of economic reason and sound environmental health. Therefore, the Board supports the following policies. a. The sound development of any and all energy resources, including, but not limited to geothermal, wind, biomass, and solar. b. The use of peer-reviewed science in the assessment of impacts related to energy resource development. c. The development of adequate utility corridors necessary for the transmission of newly generated energy. d. Maintain energy opportunities on state and federal lands maintaining and expanding access e. Treat renewable energy sources as natural resources, subject to County planning and environmental jurisdiction. Consider, account for, and mitigate ecological, cultural, economic, and social impacts, as well as benefits, from development of renewable energy resources. Consider developing environmental and zoning permitting processes to ensure efficient permitting of renewable energy projects while mitigating negative impacts to county services and citizens, with a goal to ensuring that citizens of the County benefit from renewable energy development in the County.	**Consistency:** Unknown. The project is a renewable energy project that makes use of the County's abundant solar resources. However, the tie-in structure of the electrical and gas pipeline components of the project are such that no additional electricity or gas from the project would be available within the immediate area of the project site, but would be diverted to the east to sub-stations where it will be dispersed to wider areas within Nevada and California. Preliminary assessment of the project indicates that provision of such additional electrical and gas resources could have growth-inducing impacts within the larger Pahrump Valley/ Charleston View area or other development in more distant parts of Nevada and California, resulting in economic and social impacts. As a result, the project appears non-compliant with subsection e. of this policy. Compliance could be met based on the addition of the County's Conditions of Certification.	Yes.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
Goal GOV-11/Access & Transportation **AND** **Policy GOV-11.1/Balanced Transportation:** It is the policy of the County to develop and maintain a transportation system that optimizes accessibility and that minimizes the cost of movement within the planning area and connecting corridors consistent with County, state and federal roadways and travel ways; therefore, it is the policy of the County that: a. Any and all proposed route closures should be coordinated with the County and be highlighted in the appropriate environmental document. b. Most railroad rights of way have been abandoned. Any remaining railroad right of way being considered for conversion to a different use should be reviewed by the County to determine that the use is temporary and not preclude future railroad use or that it is not viable for future railroad or other transportation use. c. All routes causing no actual resource damage should remain open. d. All off-road closure policies must contain adequate exemptions for administrative, management and public functions. These should include but not be limited to: 1. Agency administration. 2. Livestock management. 3. Scientific research. e. Interagency Notification – The County, when affected by land use planning on public lands, shall be consulted and coordinated with in accordance with all applicable state and federal laws. Federal and state agencies shall coordinate with the County for the purpose of planning and managing lands within the geographic boundaries of the planning area or within the socio-economic sphere of the County.	**Consistency:** Unknown. Preliminary assessment of the project's likely transportation impacts has resulted in the development of a number of mitigation measures designed to decrease project impacts to less than significant levels. However, the project proposes to develop within public roads and mitigation is proposed to close public roads.	No.
LAND USE ELEMENT		
General Plan Land Use Designations: The project site is designated both as Resort/Recreational (REC), which is	**Consistency: Non-compliant.** The proposed use of the site for a renewable energy project (solar plant) is not an	Yes.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
described in Policy LU-3.4 as providing "for a mixture of residential and recreational commercial uses," and as Open Space & Recreation (OSR), which is described in Policy LU-5.1 as providing for "existing and planned uses such a public parks, ball fields, horse stables, greenbelts, and similar and compatible uses."	allowed use under either of these land use designations.	
Goal LU-1/General Land Use: Create opportunities for the reasonable expansion of communities in a logical and contiguous manner that minimizes environmental impacts, minimizes public infrastructure and service costs, and furthers the countywide economic development goals. Guide high-density population growth to those areas where services (community water and sewer systems, schools, commercial centers, etc.) are available or can be created through new land development, while providing and protecting open space areas.	**Consistency: Non-compliant**. The project – particularly the 29 months of the construction phase – will result in increased population in the area that will create a need for services and infrastructure that the area currently cannot provide and the County cannot fund. Compliance could be met based on the addition of the County's Conditions of Certification. Comment 74	No.
Policy LU-1.1/Community Expansion: The County shall encourage community expansion to occur in a logical and orderly manner.	**Consistency: Non-compliant**. The project's construction phase will last up to 29 months and, at its peak, include more than 1,000 workers, which will result in need for services and infrastructure that the nearest community of Charleston View cannot absorb or provide, and which the County cannot fund. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy LU-1.2/New Growth: The County shall plan to concentrate new growth within and contiguous to existing communities (e.g., Bishop, Big Pine, Independence, Lone Pine) and expand infrastructure as needed to serve these areas. As a secondary priority, the County shall plan to accommodate new growth in existing rural residential communities (e.g., Olancha, Charleston View, Mustang Mesa, Starlite Estates) and ensure the appropriate expansion of existing infrastructure as needed to serve these areas.	**Consistency: Non-compliant**. The project proposes development adjacent to the community of Charleston View, with a peak influx of over 1,000 construction workers, followed by a new population of workers at the solar plant. It is unresolved how the project proposes to subsidize the housing, services and infrastructure such a large and temporary increase in population will require. Compliance could be met based on the addition of the County's Conditions of Certification. Comment 75	
Policy LU-1.3/Southeast Area Growth: The County shall consider the economic impact on County resources of projects in the southeast	**Consistency: Non-compliant**. The County has prepared a socio-economic study to document the likely impacts and	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
part of the County along the Nevada border. Such growth may require additional fiscal analysis by applicants for subdivisions to demonstrate the level of fiscal impact. Such growth shall not require extensive County subsides in providing necessary services.	needs created by the project's influx of construction workers and subsequent solar plant workers. It is unresolved how the project proposes to subsidize the housing, services and infrastructure such a large and temporary increase in population will require. Compliance could be met based on the addition of the County's Conditions of Certification.	
Policy LU-1.5/Pahrump Valley Growth: The County shall consider the economic impacts on County resources of projects in the Pahrump Valley. Such growth may require additional fiscal analysis by applicants for subdivision to demonstrate the level of fiscal impact. Such growth shall not require extensive County subsidies in providing necessary services.	**Consistency: Non-compliant**. The County has prepared a socio-economic study to document the likely impacts and needs created by the project's large influx of temporary construction workers and subsequent permanent solar plant workers. It is unresolved how the project proposes to subsidize the housing, services and infrastructure such a large and temporary increase in population will require. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy LU-1.14/Buffers: As part of new development review, the County shall require that residential development/districts are protected from non-residential uses by use of buffers or other devices. Landscaping, walls, building/facility placement, and other similar aesthetically pleasing devices are acceptable for this purpose. This does not include residential in mixed-use commercial designations.	**Consistency: Non-compliant.** Preliminary review has indicated that additional setbacks may be required for the project from the adjacent residential community of Charleston View. The current designation and zoning of the site does not allow for the use of a solar plant (i.e., designations of Open Space Recreation (OSR) & Resort/Recreation (REC), and zoning of Open Space, 40-acre minimum (OS-40)). The applicant has submitted an application to bring the project into compliance with the General Plan and zoning. Compliance could be met based on the addition of the County's Conditions of Certification.	No. Comment 75a
Goal LU-3: Provide Commercial land uses that adequately serve the existing and anticipated future needs of the community and surrounding environs.	**Consistency: Non-compliant.** The current designation and zoning of the site does not allow for the use of a solar plant (i.e., designations of Open Space Recreation (OSR) & Resort/Recreation (REC), and zoning of Open Space, 40-acre minimum (OS-40)). The applicant has submitted an application to bring the project into compliance with the General Plan and zoning. Compliance could be	Yes.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	met based on the addition of the County's Conditions of Certification.	
Policy LU-3.4/Resort/Recreational Designation (REC): This designation provides for a mixture of residential and recreational commercial uses, such as resorts, recreational facilities, motels, campgrounds, trailer parks, restaurants, general stores, service stations, and similar and compatible uses. This designation is oriented toward tourist use, however, it also permits permanent residential use and public and quasi-public uses. The FAR shall not exceed 0.40. The base residential density shall be 1 du/2.5 acres. Clustering of residential units is encouraged, with density of developed areas allowed up to 24 du/net acres.	**Consistency: Non-compliant.** The current designation and zoning of the site does not allow for the use of a solar plant (i.e., designations of Open Space Recreation (OSR) & Resort/Recreation (REC), and zoning of Open Space, 40-acre minimum (OS-40)). Compliance could be met if the County approves a General Plan Amendment.	Yes.
Policy LU-4.8/Planned Development: The County shall encourage planned development and other flexible development techniques for any large or general industrial development.	**Consistency: Non-compliant.** Preliminary review has indicated that additional setbacks may be required for the project from the adjacent residential community of Charleston View. The current designation and zoning of the site does not allow for the use of a solar plant (i.e., designations of Open Space Recreation (OSR) & Resort/Recreation (REC), and zoning of Open Space, 40-acre minimum (OS-40). The applicant has submitted an application to bring the project into compliance with the General Plan and zoning. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy LU-4.9/Landscaping: The County shall require landscaping to screen uses where necessary.	**Consistency:** Compliant. Preliminary assessment of project impacts is such that landscaping around power plant structures has been developed as a mitigation measure. However, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact.	Yes.
Goal LU-5: Provide adequate public facilities and services for the existing and/or future needs of communities and their surrounding environs, and to conserve natural and managed resources.	**Consistency: Non-compliant.** The project is a renewable energy project that makes use of the County's abundant solar resources. However, the tie-in structure of the electrical and gas pipeline	Yes.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	components of the project are such that no additional electricity or gas from the project would be available within the immediate area of the project site, but would be diverted to the east to sub-stations where it will be dispersed to wider areas within Nevada and Califor Comment 76 Preliminary assessment of the project indicated that provision of such additional electrical and gas resources could have growth-inducing impacts within the larger Pahrump Valley/Charleston View area or other development in more distant parts of Nevada and California. The project will result in increased demands for public services and facilities that have not been adequately addressed. Compliance could be met based on the addition of the County's Conditions of Certification.	
Policy LU-5.1/Open Space & Recreation Designation (OSR): This designation provides for existing and planned public parks, ball fields, horse stables, greenbelts, and similar and compatible uses. The FAR shall not exceed 0.20. The minimum parcel size is generally 40 acres.	**Consistency: Non-compliant.** The current designation and zoning of the site does not allow for the use of a solar plant (i.e., designations of Open Space Recreation (OSR) & Resort/Recreation (REC), and zoning of Open Space, 40-acre minimum (OS-40)). Compliance could be met if the County approves a General Plan Amendment.	Yes.
Goal PSU-1/General Public Services & Utilities: To ensure the timely development of public facilities and the maintenance of adequate service levels for these facilities to meet the needs of existing and future County residents.	**Consistency: Non-compliant.** The project has not yet demonstrated how it will fund the increase in services that project's construction workers and subsequent solar plant workers will require. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy PSU-1.1/Facilities & Services for New Development: The County shall ensure through the development review process that public facilities and services will be developed, operational, and available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).	**Consistency: Non-compliant.** The project has not yet demonstrated how it will fund the increase in facilities and services that the project's temporary construction workers and subsequent permanent solar plant workers will require. Compliance could be met based on the addition of the County's Conditions of Certification.	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
Policy PSU-1.2/On-Site Infrastructure: The County shall require all new development, including major modifications to existing development, to construct necessary on-site infrastructure to serve the project in accordance with County standards.	**Consistency: Non-compliant**. The project proposes adequate on-site infrastructure for the solar plant project, but it is not clear if adequate funding for services or infrastructure will be provided. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy PSU-1.5/Review for Land Use Changes: When reviewing applications for land use designation changes (i.e., zone change, General Plan Amendment, specific plan amendment), the County shall thoroughly analyze the impacts of the proposed changes on all aspects of the infrastructure system within the County, and require mitigation as appropriate. This shall include consultation with service providers who have infrastructure within the County.	**Consistency: Non-compliant**. The current designation and zoning of the site does not allow for the use of a solar plant (i.e., designations of Open Space Recreation (OSR) & Resort/Recreation (REC), and zoning of Open Space, 40-acre minimum (OS-40)). The project will not provide adequate infrastructures and services. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy PSU-1.6/Coordination: The County shall require that the provision of streets, sewer, water, drainage, and other needed infrastructure be coordinated in a logical manner between adjacent developments so as to reduce design, construction and maintenance costs.	**Consistency: Non-compliant**. The applicant has taken into consideration existing infrastructure such as roadways, and adjacent development such as the St. Therese Mission and the Charleston View community. However, impacts to streets may be significant. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy PSU-1.7/Undergrounding Utilities: The County shall require undergrounding of utility lines in new development areas and as areas are redeveloped, except where infeasible for operational or financial reasons. The County will also work with utility providers to proactively place utilities underground as part of the utilities' ongoing maintenance program.	**Consistency:** Compliant. Transmission lines and gas pipelines exit the site at the east boundary, at the California-Nevada border, and will thus exist within Nevada.	Yes.
Goal PSU-2/Funding: To ensure that adequate facility and service standards are achieved and maintained through the use of equitable funding methods.	**Consistency: Non-compliant**. It has not yet been demonstrated how the project proposes to fund the increased need for, and impacts to, facilities and services which the large influx of temporary construction workers, and then permanent solar plant workers, will bring. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy PSU-2.2/Fair Share of Costs: The County shall require that new development	**Consistency: Non-compliant**. The project will not pay its fair share of the	No.

Comment 77

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
pays its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services. Exceptions may be made when new development generates significant public benefits (e.g., low income housing) or when alternative sources of funding can be identified to offset foregone revenues.	cost of developing and upgrading new facilities and services resulting from it. Compliance could be met based on the addition of the County's Conditions of Certification.	
Policy PSU-2.3/Public Financing Plans: The County shall require a public financing plan be in place prior to the start of construction of new development to ensure that all required public improvements are adequately funded and provided in a timely manner.	**Consistency: Non-compliant**. The project does not include a public financing plan to ensure that required public improvements are adequately funded and provided in a timely manner, nor is there assurance that such improvements will be provided. Compliance could be met based on the addition of the County's Conditions of Certification. **Comment 78**	No.
Policy PSU-2.4/Allocation of Costs: The County shall allocate the cost of public improvements to all benefiting properties and, to the extent that a landowner is required to pay for facility oversizing, the County shall utilize reimbursement mechanisms to maintain equity among all benefiting property owners.	**Consistency:** Unknown. It is unclear if the development will provide for its services or infrastructure.	No.
Goal PSU-3/Water: To ensure that there will be a safe and reliable water supply sufficient to meet the future needs of the County.	**Consistency: Non-compliant.** Preliminary assessments indicate the project will have significant impacts to area water resources. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy PSU-3.1/Efficient Water Use: The County shall promote efficient water use and reduced water demand.	**Consistency: Non-compliant.** Preliminary assessments indicate the project will have significant impacts to area water. Compliance could be met based on the addition of the County's Conditions of Certification.	Yes.
Goal PSU-4/Wastewater: To ensure adequate wastewater collection, treatment, and disposal.	**Consistency:** Compliant. The project proposes adequate wastewater management for the project site. **Comment 79**	No.
Goal PSU-5/Stormwater Drainage: To collect and dispose of stormwater in a manner that minimizes inconvenience to the public, minimizes potential water-related damage, and enhances the environment.	**Consistency:** Compliant. The project proposes adequate stormwater drainage for the project site.	No.
Goal PSU-6/Solid Waste Facilities: To ensure the safe and efficient disposal or recycling of solid waste generated in Inyo	**Consistency: Non-compliant.** Although the applicant will participate in the County's Monitoring & Diversion of	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
County.	Comment 80 Construction & Demolition Debris Program, waste will be disposed of in Nevada, as the County's Tecopa Landfill does not have the personnel or infrastructure to handle the quantity of waste that construction of the project will yield. The County has assessed the likely waste-related costs and impacts of the large influx of construction workers expected for the project. Compliance could be met based on the addition of the County's Conditions of Certification.	
Goal PSU-8/Fire Protection: To protect the residents of and visitors to Inyo County from injury and loss of life and to protect property from fires. **AND** **Implementation Measure 10.0:** The County shall work with the California Department of Forestry & Fire Protection, local fire protection districts, and federal agencies involved in fire protection activities to maximize the use of resources to develop functional and/or operational consolidations and standardization of services and to maximize the efficient use of fire protection resources.	**Consistency:** Unknown. Although adequate fire protection is proposed for the project site, preliminary assessments indicate that the project itself increases the risk of fire within the project area. As a result of this potential increased risk of off-site impacts, the Southern Inyo Fire District (SIFD) are working with the applicant on funding for such increased impacts to County fire protection services, and this issue is as yet unresolved.	No.
Policy PSU-8.1/Fire Protection for New Development: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in unincorporated areas of the County shall not be approved unless adequate fire protection facilities can be provided.	**Consistency:** Unknown. Although adequate fire protection is proposed for the project site, preliminary assessments indicate that the project itself increases the risk of fire within the project area. As a result of this potential increased risk of off-site impacts, the Southern Inyo Fire Protection District is working with the applicant on funding for such increased impacts to fire protection services, and this issue is as yet unresolved.	No.
Goal PSU-9/Law Enforcement: To provide adequate law enforcement services to deter crime and to meet the growing demand for services associated with increasing populations and commercial/industrial development in the County.	**Consistency: Non-compliant.** Preliminary assessments indicate that the project's expected influx of construction workers will have significant impacts on the County's law enforcement services. The County is currently still working with the applicant on funding for such impacts to County services, and the issue is as yet	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	unresolved. Compliance could be met based on the addition of the County's Conditions of Certification.	
Goal PSU-10/Gas & Electrical Facilities: To provide efficient and cost-effective utilities that serves the existing and future needs of people in the unincorporated areas of the County.	**Consistency:** Compliant. The project is a renewable energy project that makes use of the County's abundant solar resources. However, the tie-in structure of the electrical and gas pipeline components of the project are such that no additional electricity or gas from the project would be available within the immediate area of the project site, but would be diverted to the east to sub-stations where it will be dispersed to wider areas within Nevada and California. Preliminary assessment of the project indicated that provision of such additional electrical and gas resources could have growth-inducing impacts within the larger Pahrump Valley/Charleston View area or other development in more distant parts of Nevada and California. **Comment 81**	No.
Policy PSU-10.1/Expansion of Services: The County shall work with local electric utility companies to design and locate appropriate expansion of electric systems, while minimizing impacts to agriculture and minimizing noise, electromagnetic, visual, and other impacts on existing and future residents.	**Consistency:** Compliant. The project is a renewable energy project that makes use of the County's abundant solar resources. However, the tie-in structure of the electrical and gas pipeline components of the project are such that no additional electricity or gas from the project would be available within the immediate area of the project site, but would be diverted to the east to sub-stations where it will be dispersed to wider areas within Nevada and California. Preliminary assessment of the project indicated that provision of such additional electrical and gas resources could have growth-inducing impacts within the larger Pahrump Valley/Charleston View area or other development in more distant parts of Nevada and California.	Yes.
Goal PSU-11/Schools: To ensure that adequate school facilities are available and appropriately located to meet the needs of Inyo County residents.	**Consistency:** Unknown. Preliminary assessments indicate that the project's expected influx of construction workers will have significant impacts on school facilities and services in the County. It is unclear if the CEC and the applicant have consulted with local school officials, and	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	the issue is as yet unresolved.	
ECONOMIC DEVELOPMENT ELEMENT		
Goal ED-1: Promote increased capacity to serve tourists within the County's established urbanized areas, and in those areas with established tourist attractions. **AND** **Implementation Measure 16.0:** Encourage the telecommunications industry to install and maintain state of the art high speed high capacity service throughout the County so that established businesses, public agencies, and home businesses may overcome any distance to market competitive disadvantage they currently have.	**Consistency: Non-compliant**. The project is a renewable energy project that makes use of the County's abundant solar resources. However, the tie-in structure of the electrical and gas pipeline components of the project are such that no additional electricity or gas from the project would be available within the immediate area of the project site, but would be diverted to the east to sub-stations where it will be dispersed to wider areas within Nevada and California. Preliminary assessment of the project indicated that provision of such additional electrical and gas resources could have growth-inducing impacts within the larger Pahrump Valley/Charleston View area or other development in more distant parts of Nevada and California. The project could hinder economic development in the area, impact public services and facilities, and result in lost opportunity costs. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Goal ED-4/Resource Based & Industrial Land Uses: Actively encourage the expansion of existing industry of all types (including resource industries, manufacturing and service industries), and actively recruit new businesses that will bring new jobs to the County.	**Consistency:** Compliant. The project is a renewable energy project that makes use of the County's abundant solar resources and assists the State of California in meeting its targeted goals for its renewable energy portfolio.	No.
HOUSING ELEMENT		
Goal HE-2: To provide adequate sites for residential development.	**Consistency:** Unknown. The project displaces lands available for housing. The Preliminary Staff Assessment (PSA) prepared by the California Energy Commission (CEC) does not address this impact.	No.
Goal HE-3: Encourage the adequate provision of housing by location, type of unit, and price, to meet the existing and future needs of Inyo County residents.	**Consistency:** Unknown. The project displaces lands available for housing. The Preliminary Staff Assessment (PSA) prepared by the California Energy Commission (CEC) does not address this impact.	No.
Policy HE-3.1/Variety of Housing: In	**Consistency:** Unknown. The project	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
consultation with federal, state, and local agencies, the County shall continue to identify and evaluate the best approaches to providing a variety of residential development opportunities in the County, including single-family homes, mobile homes, second units, and apartments to fulfill regional housing needs. **AND** **Implementation Measure 3.1.1:** The County will explore an Employer Assisted Housing Program by forming a working group with major employers in the area to discuss how the County can assist in the development of employer-assisted housing in Inyo County, including housing for lower- and moderate-income households, such as those with teachers, police officers and sheriff's deputies, nurses, etc.	displaces lands available for housing. The Preliminary Staff Assessment (PSA) prepared by the California Energy Commission (CEC) does not address this impact.	
Policy HE-3.3/Second Units: Encourage the development of second units as another way to promote housing opportunities for lower-income households.	**Consistency:** Unknown. The project displaces lands available for housing. The Preliminary Staff Assessment (PSA) prepared by the California Energy Commission (CEC) does not address this impact.	No.
Policy HE-3.4/Manufactured and Mobile Homes: The County will continue to promote the utilization of manufactured housing and mobile home purchase and placement as an affordable homeownership opportunity.	**Consistency:** Unknown. The project displaces lands available for housing. The Preliminary Staff Assessment (PSA) prepared by the California Energy Commission (CEC) does not address this impact.	No.
Policy HE-5.3/Infrastructure: The County will work to provide adequate infrastructure to accommodate residential development in all areas of the unincorporated county. **AND** **Implementation Measure 5.3.1:** The County will work to provide adequate infrastructure to accommodate residential development in all areas of the unincorporated county.	**Consistency: Non-compliant.** The project will result in public service and infrastructure deficiencies that could hinder residential development. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
CIRCULATION ELEMENT		
Goal RH-1: A transportation system that is safe, efficient, and comfortable, which meets the needs of people and goods and enhances	**Consistency: Non-compliant.** Preliminary assessment of the project's likely transportation impacts has resulted	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
the lifestyle of the County's residents.	in the development of a number of mitigation measures designed to decrease project impacts to less than significant levels. In particular, Old Spanish Trail Highway/Tecopa Road has an existing paved width of just 22 feet. Preliminary assessments indicate that impacts to the roadway during the construction of the project would require mitigation in the form of a traffic control plan, which would be necessary for the roadway to continue to operate at a Level of Service (LOS) of C or better. However, damage to the roadway could result from heavy truck traffic during the construction phase of the project, and mitigation in the form of restoration of the roadway may be necessary. Compliance could be met based on the addition of the County's Conditions of Certification.	Comment 82
Policy RH-1.4/Level of Service: Maintain a minimum level of service (LOS) "C" on all roadways in the County. For highways within the County, LOS "C" should be maintained except where roadways expansions or reconfigurations will adversely impact the small community character and economic viability of designated Central Business Districts.	**Consistency:** Unknown. Preliminary assessment of the project's likely transportation impacts has resulted in the development of a number of mitigation measures designed to decrease project impacts to less than significant levels. Under such mitigation measures, a Traffic Control Plan is prepared and LOS shall be monitored, but mitigation measure language does not state specifically that a minimum LOS of "C" or better shall be maintained.	Yes.
Policy RH-1.5/Proper Access: Provide proper access to residential, commercial, and industrial areas.	**Consistency:** Compliant. Preliminary assessment of the project's likely transportation impacts has resulted in the development of a number of mitigation measures designed to decrease project impacts to less than significant levels.	Yes.
Policy RH-1.6/Minimize Environmental Impacts: Insure that all transportation projects minimize adverse effects on the environment of the County.	**Consistency:** Unknown. Preliminary assessment indicates that, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact. In particular, assessments identify the Old Spanish Trail as a scenic resource that will be substantially	Yes.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	disrupted by the project.	
Policy SH-1.1/Protect the Natural Qualities of Designated Scenic Routes: The natural qualities of designated scenic routes should be protected.	**Consistency:** Unknown. Preliminary assessment indicates that, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact.	Yes.
Goal CPT-1: To ensure that regional conveyance systems are designed and located to serve Inyo County residents while not significantly impacting communities or regional viewsheds.	**Consistency:** Unknown. The tie-in structure of the electrical and gas pipeline components of the project are such that no additional electricity or gas from the project would be available within the immediate area of the project site, but would be diverted to the east to sub-stations where it will be dispersed to wider areas within Nevada and California. Preliminary assessment of the project indicated that provision of such additional electrical and gas resources could have growth-inducing impacts within the larger Pahrump Valley/Charleston View area or other development in more distant parts of Nevada and California. In addition, Preliminary assessment indicates that, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in significant and unavoidable aesthetic impacts.	No.
Policy CPT-1.1/Placement of Corridors: The County shall consider the visual and environmental impacts associated with placement of regional conveyance corridors.	**Consistency:** Unknown. Preliminary assessment indicates that, even with mitigation measures incorporated, the large size of the project and the height of the solar power towers is such that the project inherently changes the landscape and scenic vistas within the greater Pahrump Valley and results in a significant and unavoidable aesthetic impacts. Environmental impacts, such as to water resources and biological resources, are also assessed to be significant, although mitigation developed for the project will	Yes.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	decrease such impacts to less than significant levels.	
CONSERVATION/OPEN SPACE		
Goal WR-1: Provide an adequate and high quality water supply to all users within the County.	**Consistency: Non-compliant.** Preliminary assessment of the project indicates that the project could exacerbate overdraft conditions, contribute to water level decline for groundwater dependent vegetation, and substantially lower water levels in neighboring domestic wells. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy WR-1.1/Water Provisions: The County shall review development proposals to ensure adequate water is available to accommodate projected growth.	**Consistency: Non-compliant.** Pump tests performed for the project were subject to irregularities in execution, and were discontinued prematurely, and the results were inconclusive. Despite these issues, preliminary assessment of the project indicates that the project could exacerbate overdraft conditions, contribute to water level decline for groundwater dependent vegetation, and substantially lower water levels in neighboring domestic wells. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy WR-1.3/Domestic Groundwater: Support sustainable groundwater extraction for domestic use in rural areas. **AND** **Implementation Measure 2.0:** The County shall review any new development proposals that involve a withdrawal of groundwater that is not regulated by the County's Groundwater Ordinance (Ordinance 1004) or the Inyo County/Los Angeles Water Agreement to ensure that with the proposed use, there will be an adequate, safe, and economically viable supply of groundwater to supply all existing users of the groundwater as well as the future users under the proposed development. **AND** **Implementation Measure 3.0:** The County	**Consistency: Non-compliant.** Preliminary assessment of the project indicates that the project could exacerbate overdraft conditions, contribute to water level decline for groundwater dependent vegetation, and substantially lower water levels in neighboring domestic wells. Compliance could be met based on the addition of the County's Conditions of Certification. **Comment 83**	No.

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shall work with private industries to support the development of reclaimed water systems for non- potable uses. These efforts may include obtaining funding for subsidizing reclaimed water systems.		
Policy WR-2.2/Watercourse Alterations: Encourage the preservation of existing conditions of watercourses when considering flood control projects.	**Consistency:** Compliant. Preliminary assessments indicate that the majority of the project site would maintain the original grades and natural drainage features and require no added storm drainage control.	No.
Goal WR-3: Protect and restore environmental resources from the effects of export and withdrawal of water resources.	**Consistency: Non-compliant.** Pump tests performed for the project were subject to irregularities in execution, and were discontinued prematurely, and the results were inconclusive. Despite these issues, preliminary assessment of the project indicates that the project could exacerbate overdraft conditions, contribute to water level decline for groundwater dependent vegetation, and substantially lower water levels in neighboring domestic wells. Other natural and human resources in the County could be impacted. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy WR-3.2/Sustainable Groundwater Withdrawal: The County shall manage the groundwater resources within the County through ordinances, project approvals and agreements, ensure an adequate, safe and economically viable groundwater supply for existing and future development within the County, protect existing groundwater users, maintain and enhance the natural environment, protect the overall economy of the County, and protect groundwater and surface water quality and quantity.	**Consistency: Non-compliant.** Pump tests performed for the project were subject to irregularities in execution, and were discontinued prematurely, and the results were inconclusive. Despite these issues, preliminary assessment of the project indicates that the project could exacerbate overdraft conditions, contribute to water level decline for groundwater dependent vegetation, and substantially lower water levels in neighboring domestic wells. Compliance could be met based on the addition of the County's Conditions of Certification. **Comment 84**	No.
Policy BIO-1.1/Regulatory Compliance: The County shall review development proposals to determine impacts to sensitive natural communities, of both local and regional concern, and special-status species. Appropriate mitigation measures will be	**Consistency:** Compliant. Extensive biological surveys have been prepared for the project, together with mitigation for identified impacts.	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
incorporated into each project, as necessary.		
Policy BIO-1.2/Preservation of Riparian Habitat & Wetlands: Important riparian areas & wetlands, as identified by the County, shall be preserved and protected for biological resource value.	**Consistency: Non-compliant.** Preliminary assessment indicates the project will have significant impacts on groundwater dependent areas such as riparian habitats and Areas of Critical Environmental Concern such as Stump Springs. Preliminary assessment of the project indicates that the project could exacerbate overdraft conditions and contribute to water level decline for groundwater dependent vegetation. Compliance could be met based on the addition of the County's Conditions of Certification.	No.
Policy BIO-1.5/Develop Outside of Habitat Areas: Work with regulatory agencies and private developers to direct development into less significant habitat areas. Discourage urban development in areas containing sensitive natural communities or known to contain special-status species.	**Consistency:** Compliant. Preliminary assessment indicates the project will have significant impacts on a number of species. However, mitigation has been developed for the project that will decrease impacts to less than significant levels and satisfy regulating agencies such as Bureau of Land Management (BLM) and Department of Fish & Game (DFG). However, such mitigation measures include off-site mitigation, which at this time is still being investigated. Should such mitigation prove unworkable, then impacts may be significant and immitigable.	No. Comment 85
Goal CUL-1: Preserve and promote the historic and prehistoric cultural heritage of the County.	**Consistency:** Unknown. Preliminary assessment indicates the project will result in significant impacts to various cultural resources (notably three ethnographic landscapes and the Old Spanish Trail-Mormon Road Northern Corridor), and that there is no way that the project, as currently proposed, could be mitigated to minimize such significant impacts.	No.
Policy CUL-1.3/Protection of Cultural Resources: Preserve and protect key resources that have contributed to the social, political, and economic history and prehistory of the area, unless overriding circumstances are warranted.	**Consistency:** Unknown. Preliminary assessment indicates the project will result in significant impacts to various cultural resources (notably three ethnographic landscapes and the Old Spanish Trail-Mormon Road Northern Corridor), and that there is no way that the project, as currently proposed, could	Yes.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	be mitigated to minimize such significant impacts.	
Policy CUL-1.4/Regulatory Compliance: Development and/or demolition proposals shall be reviewed in accordance with the requirements of CEQA and the National Historic Preservation Act.	**Consistency:** Unknown. The project has been so reviewed. However, preliminary assessment indicates the project will result in significant impacts to various cultural resources (notably three ethnographic landscapes and the Old Spanish Trail-Mormon Road Northern Corridor), and that there is no way that the project, as currently proposed, could be mitigated to minimize such significant impacts.	No.
Policy CUL-1.5/Native American Consultation: The County and private organizations shall work with appropriate Native American groups when potential Native American resources could be affected by development proposals.	**Consistency:** Compliant. Tribal representatives have met extensively with project representatives and have contributed directly and significantly to the preliminary assessment of the significant and immitigable impacts the project would have on various cultural resources. **Comment 86**	No.
Chapter 8.8/Visual Resources: Critical identified visual resource issues include: • Maintaining the small town character of towns in Inyo County • Preserving panoramic views • Maintaining the open, natural character of the County • Maintaining visual resources of scenic corridors, highways, and roadways	**Consistency:** Unknown. Preliminary assessment indicates that, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact.	Yes.
Goal VIS-1: Preserve and protect resources throughout the County that contribute to a unique visual experience for visitors and quality of life for County residents.	**Consistency:** Unknown. Preliminary assessment indicates that, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact.	Yes.
Goal VIS-1.1/Historical Character: The County shall preserve and maintain the historic character of communities within the County.	**Consistency:** Unknown. Preliminary assessment indicates that, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact. In particular, assessments identify the Old Spanish Trail as a scenic resource that will be substantially	No. Comment 86a

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
	disrupted by the project.	
Policy VIS-1.4/Equipment Screening: Within communities, building equipment shall be screened from public view.	**Consistency:** Unknown. Preliminary assessment of project impacts is such that landscaping around power plant structures has been developed as a mitigation measure. However, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact.	Yes.
Policy VIS-1.6/Control of Light & Glare: The County shall require that all outdoor light fixtures including street lighting, externally illuminated signs, advertising displays, and billboards use low-energy, shielded light fixtures which direct light downward (i.e., lighting shall not emit higher than a horizontal level) and which are fully shielded. Where public safety would not be compromised, the County shall encourage the use of low-pressure sodium lighting for all outdoor light fixtures.	**Consistency:** Unknown. Preliminary assessment of project impacts is such that mitigation for control of light and glare has been developed. However, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impact.	Yes.
Policy VIS-1.7/Street Lighting: Street lighting shall only be utilized where needed to protect public safety related to traffic movement.	**Consistency:** Unknown. Preliminary assessment of project impacts is such that mitigation for control of light and glare has been developed. However, even with mitigation measures, the height of the solar power towers is such that the project inherently changes the landscape in the vicinity of the project site and results in a significant and unavoidable aesthetic impacts.	Yes.
Policy REC-1.2/Recreational Opportunities on Federal, State, and LADWP Lands: Encourage the continued management of existing recreational areas and open space, and appropriate expansion of new recreational opportunities on federal, state, and LADWP lands.	**Consistency:** Unknown. It is not yet clear the impacts that use by the increased numbers of construction workers will have on such Federal, State, and LADWP lands, or whether/how the agencies responsible for such lands will expand opportunities for use to the increased population brought by the project.	No.
PUBLIC SAFETY ELEMENT		Comment 87
Goal AQ-1: Provide good air quality for Inyo County to reduce impacts to human health and the economy.	**Consistency:** Compliant. Mitigation has been developed for impacts to air quality that will decrease them to less than significant levels.	No.
Policy AQ-1.2/Attainment Programs: Participate in the GBUAPCD's attainment	**Consistency:** Compliant. Mitigation has been developed for impacts to air quality	No.

Inyo County General Plan Goal or Policy	Analysis of Proposed Project's Consistency as Conditioned in PSA	Identified by PSA as LORS?
programs.	that will decrease them to less than significant levels.	
Policy AQ-1.3/Dust Suppression During Construction: Require dust-suppression measures for grading activities.	**Consistency:** Compliant. Mitigation has been developed for impacts to air quality that will decrease them to less than significant levels. **Comment 88**	No.
Policy AQ-1.5/Monitor Regional Development: Publicly object to development proposals within the region that do not adequately address and mitigate air quality impacts, especially fugitive dust.	**Consistency:** Compliant. Mitigation has been developed for impacts to air quality that will decrease them to less than significant levels. **Comment 89**	No.
Goal WF-1: Prevent wildfires and provide public safety from wildfire hazards.	**Consistency:** Unknown. Although adequate fire protection is proposed for the project site, preliminary assessments indicate that the project itself increases the risk of fire within the project area. As a result of this potential increased risk of off-site impacts, the County and the Southern Inyo Fire District (SIFD) are working with the applicant on funding for such increased impacts to County fire protection services, and this issue is as yet unresolved.	No.
Policy WF-1.1/Fire Protection Agencies: Support expansion of fire protection agencies and volunteer fire departments, and continue to cooperate with federal, state, local agencies and private landowners to provide greater fire protection for the County.	**Consistency:** Unknown. Although adequate fire protection is proposed for the project site, preliminary assessments indicate that the project itself increases the risk of fire within the project area. As a result of this potential increased risk of off-site impacts, the County and the Southern Inyo Fire District (SIFD) are working with the applicant on funding for such increased impacts to County fire protection services, and this issue is as yet unresolved.	No.
Policy WF-1.2/Limitations in Fire Hazard Zones: Discourage development within high fire hazard severity zones.	**Consistency:** Compliant. The project is located within a "Moderate," not a "High," fire hazard severity zone, as is most of Inyo County.	No.
Policy WF-1.3/Fuel Modification: Require fuel modification for structures within fire hazard zones.	**Consistency:** Compliant. The project will manage fuel/vegetation within the project boundaries and has developed fire protection mitigation measures for the project site.	No.
Policy WF-1.5/Emergency Access: All County public roads shall be developed and maintained at adequate standards to provide safe circulation for emergency equipment.	**Consistency:** Unknown. Although adequate fire protection is proposed for the project site, preliminary assessment indicate that the project itself increases **Comment 90**	No.

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AND **Implementation Measure 2.0:** The County shall work with local fire districts and volunteer fire departments to develop community fire plans to identify the desired level of service and methods to obtain such services.	the risk of fire within the project area. As a result of this potential increased risk of off-site impacts, the County and the Southern Inyo Fire District (SIFD) are working with the applicant on funding for such increased impacts to County fire protection services, and this issue is as yet unresolved.	
Goal GEO-1: Minimize exposure to hazards and structural damage from geologic and seismic conditions.	**Consistency:** Compliant. Although preliminary assessment of the site indicates it could be subject to strong levels of earthquake-related ground shaking due to area earthquake faults, as well as subject to soil failure due to hydrocollapse, soil fissure formations, and dynamic compaction, mitigation measures have been developed for the project that would keep impacts to less than significant levels.	Yes.
Goal NOI-1: Prevent incompatible land uses, by reason of excessive noise levels, from occurring in the future. This includes protecting sensitive land uses from exposure to excessive noise and to protect the economic base of County by preventing the encroachment of incompatible land uses with areas affected by existing or planned noise-producing uses.	**Consistency:** Compliant. The solar plant itself should not create excessive noise levels for the adjacent residential community of Charleston View. **Comment 91**	Yes.

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COUNTY OF INYO
WATER DEPARTMENT

July 19, 2012

TO: Mike Monasmith, Project Manager
Siting, Transmission, and Environmental Protection Division
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, California 95814

FROM: Robert Harrington, Ph.D, R.G.
Director, Inyo County Water Department

SUBJECT: Comments on Preliminary Staff Assessment for the Hidden Hills Solar Energy Generating System

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Thank you for the opportunity to comment on the Hidden Hills Solar Energy Generating System (HHSEGS) Preliminary Staff Assessment (PSA). The CEC is to be commended for the thorough, transparent, and accessible public process conducted for this project. The following comments pertain to Section 4.15 (Water Supply) and parts of Section 4.2 (Biological Resources) that pertain to groundwater-dependent vegetation. The County of Inyo Board of Supervisors has adopted a resolution titled "*A Resolution of the Board of Supervisors of the County of Inyo, State of California, Adopting the findings and Conditions of Certification for the Proposed Hidden Hills Solar Electric Generating Station in Charleston View in Inyo County (California Energy Commission Application for Certification No. 11-AFC-2).*" In that resolution, the Board of Supervisors makes a number of findings and establishes conditions of certification related to many sections of the PSA, including Biological Resources and Water Supply. The comments given below provide the rationale for a number of the findings and conditions in the Board Resolution related to Biological Resources and Water Supply.

Comment #1: Hydrologic analysis. The emphasis of the conditions of certification associated with groundwater extraction should be on monitoring to detect off-site changes in groundwater elevation. In response to data request #141, the applicant reported on an aquifer performance test (APT) to observe the groundwater system's response to pumping. The PSA, as well as discussions at status conferences and public workshops, have placed considerable emphasis on the results of APT. The applicant has used the APT results to argue that the project will have no off-site impacts to the groundwater system; CEC staff argues in the P5A that the applicant has misinterpreted the ATP results; and other parties have criticized the conduct of the APT. The applicant and CEC staff presented a number of interpretations of the APT results, all of which necessarily simplify the hydrogeologic system; however, there is insufficient

data to settle on one single interpretation as the correct rendition of the hydrologic system. In general, the simple analytical models such as used by the applicant and CEC staff to interpret the APT results do not provide a single, uniquely correct interpretation of the aquifer system; multiple interpretations may fit the test results equally well. We agree with CEC staff's analysis that stabilization of the Orchard Well's cone of depression was probably due to leakage from an unidentified source. There is insufficient information to determine whether the leakage is from an underlying, overlying, or adjacent aquifer. The applicant further argues that the regional gradient stabilized the cone of depression. In general, a developing cone of depression is additively superimposed on a regional gradient according to the principal of superposition that is applicable to all linear systems (Bear, 1979), and therefore; the transient effects resulting from a pumping well are over-printed on, separable from, and unaffected by the presence of a regional gradient. There is insufficient evidence in the record to show that this general feature of groundwater systems is, for some reason, not applicable to the project site, so we disagree with the applicant's contention. We do agree that there is a regional gradient implying flow from the Spring Mountains toward the project site, and the presence of a regional gradient does implies that groundwater flowing through the site is in transit to a down-gradient point of discharge, possibly the Amargosa River. We think it is important to establish the nature of groundwater flow from the Pahrump Valley to California Valley, Stewart Valley, Middle Amargosa Valley, and Chicago Valley. Further, we agree with CEC staff's contention that partial penetration of the APT monitoring wells may have affected the test results, and was not accounted for in any APT analysis.

The APT provided useful information related to conditions near the pumped wells, but extrapolating results from a test that spanned a few days into an assessment of impacts over the life of the project is inherently uncertain. Additional testing for a week or a month will not eliminate this uncertainty, so the CEC is faced with developing its final staff assessment based on inconclusive data. A high level of hydrogeologic uncertainty is not unique to this project; rather, it is typical when making hydrogeologic predictions involving new stresses on an aquifer system. For example, not far to the north of the project area, billions of dollars have been spent evaluating the Yucca Mountain Nuclear Waste Repository, yet great uncertainty still remains as to the likelihood of radionuclides escaping the repository via the groundwater system. For HHSEGS, because the assessment of impacts is inconclusive, the most viable way for the project to proceed is to require monitoring that will allow tracking of impacts to the groundwater system as they develop during the life of the project, so that mitigation can be implemented if it becomes apparent that groundwater dependent resources will be impacted. This approach is reasonable and feasible for HHSEGS. The applicant predicts that the modest amount of pumping proposed for this project will have negligible off-site effects; therefore, from a hydrogeologic perspective, all that is required is monitoring sufficient to verify the applicant's contention, and mitigation measures that become active if monitoring shows that the applicant's contention was wrong.

We support the provisions of WATER SUPPLY – 6A and 8A and for a monitoring well network, and recommend that conditions of certification WATER SUPPLY – 6A and 8A be modified to include the following:

> In cooperation with USBLM, the applicant shall fund and construct a monitoring well approximately ½ mile west of the Stump Springs ACEC for inclusions in the monitoring well network.

Comment #2: Triggers for mitigation actions. We do not see in the PSA a mechanism to avoid impacts by tracking groundwater level changes and taking action to reduce or stop pumping before negative impacts occur. Mitigation measures Bio – 23 and Water Supply – 8C do not require that action be taken until vegetation vigor has declined by 20%, which may be well past the point where moderating

pumping would avoid impacts. Groundwater level declines necessarily precede pumping-induced declines in soil moisture and vegetation condition; therefore, observations of water level change can be used to anticipate negative impacts and manage pumping to avoid them.

Vegetation conditions are affected by numerous factors. Our experience in Owens Valley has been that using vegetation condition as a trigger to control pumping is less reliable than using groundwater levels, because (1) groundwater levels necessarily respond sooner to pumping than vegetation conditions, and (2) vegetation conditions are affected by a greater variety and number of factors than groundwater levels. We recommend that mitigation actions be triggered by changes in groundwater levels, and vegetation monitoring be used as a check to evaluate the effectiveness of the triggering mechanism, so that the water-level based triggering mechanism can be modified if the vegetation monitoring shows that vegetation conditions are declining due to water table withdrawal.

Concerning the statement made on page 4.2-144 that "*Long-term study in the Owens Valley suggests that a change in water table elevation of as little as 0.3 feet could affect a major change in plant life form and species composition, if, In fact, the plants survive*," the threshold of 0.3 feet of drawdown seems arbitrary. We have seen no evidence in Owens Valley that such small changes in groundwater level measurably affect phreatophytic grass-dominated communities that have rooting zones around 2 meters. The literature supports this observation, and also indicates that deep-rooted species are generally more tolerant of changes in water table depth than shallow-rooted species (Elmore et. al., 2002; Patten et al., 2008; Cooper et al., 2006; Horton et al., 2001; Horton and Clark, 2001; Segelquist et al., 1993; Amlin and Rood, 2002; Horton et al., 2003; Lite and Stromberg, 2005; Stromberg et al., 1996; Amlin and Rood, 2003; Shafroth et al., 2000; Scott et al., 2000). None of these studies suggest that a 0.3 foot water table decline equates to a 20% or greater decline in measures of vegetation health in deep-rooted phreatophytes. We recommend that CEC staff conduct a more thorough review of peer-reviewed literature and existing data related to tolerance of the extant vegetation communities to water table drawdown, and, based on that review, set a threshold of water table drawdown that defines a significant impact. That threshold can then be applied to a drawdown-based mechanism for controlling project pumping as described below.

The well network should be used as an early warning system, and that action be taken based on observed declines in groundwater levels to avoid significant impacts. Action levels can be determined using predictive hydrologic modeling tools to associate observed water level changes in monitoring wells with quantitative measures of significant impact at groundwater dependent resources. In groundwater systems where pumping continues for long periods of time and large areas are affected, groundwater levels at sensitive resources may continue to decline even after pumping has stopped; therefore, special care should be given to account for delayed water table recovery at sensitive resources. To this end, BIO-23.3 should be replaced with the following:

> Based on the results of inventory of groundwater-dependent and groundwater-influenced habitat and resources produced under BIO-23, subparagraph 13, an amount of water table drawdown that would cause a significant impact to GDEs shall be identified. Using drawdown curves calculated using representative aquifer parameters applied to the Theis method, determine the maximum pumping rate that will not exceed the threshold of significant drawdown at GDEs over the life of the project. Using this pumping rate and these aquifer parameters, determine the maximum drawdown that could occur within each monitoring well located between the project and the GDEs without exceeding the threshold of significant drawdown for any GDE. If drawdown in any monitoring well exceeds the drawdown that corresponds to a threshold of significant drawdown for any GDE, the project owner shall have

90 days to provide evidence to the CPM that the drawdown is not a result of groundwater pumping by the project. If after reviewing the evidence provided by the project owner and other relevant evidence, the CPM, in consultation with BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department concludes that the drawdown is due to groundwater pumping by the project, the CPM shall notify the project owner that its groundwater pumping is to cease.

Subsequently, the project owner may resume pumping if the CPM, in consultation with BLM Nevada and California state leads for Soil, Water, Air and Riparian Programs, the BLM Southern Nevada District Hydrologist and Botanist and the Inyo County Water Department concludes that the exceedence of the drawdown trigger(s) was due to factors other than the project's pumping, and that the project's groundwater pumping did not contribute to the trigger exceedence, or the water table recovers to baseline levels.

Comment 91a

Condition of certification BIO-23 is unclear as to what measure of vegetation condition will be used to determine if action is necessary. On page 4.2-234, a significant impact is described as "decline in health of any groundwater-dependent species of 20 percent or more." Elsewhere, a less than significant impact is defined as "less than 20 percent change from the baseline condition" (p. 4.2-233), "20 percent above baseline" (p. 4.2-235), and on pages 4.15-43 – 44, one of the criteria given for reducing pumping is given as "the significance threshold for decline in plant vigor is reached." Nowhere are specific variables or methods identified to define the threshold of significant impact to vegetation. This mitigation measure and related water supply mitigation measures should clearly define what methods and variables will be used to assess vegetation health or vegetation vigor, and use consistent terminology throughout.

Comment 91b

BIO-23 discusses whether changes are correlated solely to regional drought conditions. It is unclear whether the correlation with drought conditions is applied to vegetation conditions, hydrologic conditions, or both. This concept should be broadened to allow the applicant to resume pumping if the applicant can show that the trigger exceedence was caused by some other factor than the applicant's pumping.

BIO-23.9 requires that offsite reference plots have similar species assemblages, depth to groundwater, and lithology to sites of concern. Other considerations in identifying valid reference sites are similarity in climate, geomorphic position, soils, elevation, potential evapotranspiration, runoff/runon status, depth to water variability, site disturbance, and water quality. If reference plots are used, numerous control sites should be monitored in order to reduce the effect of monitoring site idiosyncrasies on management decisions. In Owens Valley, we have found that locating truly valid control plots is challenging because of the many factors that may invalidate a plot, and that the validity of plots needs to be reassessed as time goes on and plots are subject to later disturbances.

Comment 91c

<u>Comment #3: Water-related compliance with Inyo County Code Title 21.</u> The CEC should use Inyo County Code Title 21 as a framework for analyzing groundwater-related impacts. PSA page 4.15-3 lists local laws, ordinances, regulations, and standards related to groundwater use by the project. Inyo County Code Title 21, Renewable Energy Development, was omitted from this list. Were it not for the CEC's sole permitting authority over the HHSEGS, this project would be subject to Title 21. Title 21 provides that:

As a condition to the issuance of a renewable energy impact determination or a renewable energy permit, the county planning commission may, in the case of a renewable energy impact determination, incorporate, and in the case of a renewable energy permit, impose such reasonable and feasible mitigation measures as it finds to be necessary to protect the health, safety and welfare of the county's citizens, the county's environment, including its public trust resources, and to ensure that the county and its citizens do not bear an undue financial burden from the project. (Ord. 1158 § 3, 2010.)

To implement Title 21, County staff would develop and recommend mitigation measures for consideration by the Planning Commission. To protect the County's citizens and environment from impacts related to groundwater pumping, staff would develop and recommend a mitigation plan according to this outline:

1) The Project Owner shall cooperate with the County to complete an inventory of non-project wells potentially affected by the Project that identifies the owner of each well and includes the location, depth, screened interval, pump depth, static water level, pumping water level, and capacity of each well. For each such well, the Project Owner shall assess any projected impact of the Project on the well and shall develop and submit a plan for monitoring and mitigating any adverse effects on the well, including thresholds where mitigation activities would be undertaken. The plan should include, as feasible, agreements from the owner of each well approving monitoring activities. Monitoring should include both groundwater elevation and water quality. Mitigations should include deepening or replacing wells that become inoperable due to Project pumping, monetary compensation for additional pump lift incurred by Project pumping, and mitigation for impacts to water quality.

Comment 91d

2) The Project Owner shall complete and provide to the County an inventory of groundwater-dependent or groundwater-influenced habitat and resources that may be potentially affected by the Project. The inventory should identify and describe habitat and resources dependent on or influenced by groundwater, including spring flow, baseflow to streams and rivers, phreatophytic meadows, phreatophytic scrub, and riparian areas. For each habitat or resource identified, quantitative measures of what constitutes a significant impact to such habitats and resources should be identified and associated with corresponding amounts of water table drawdown, a monitoring program should be developed that is sufficient to assess potential impacts to the habitats and resources, and mitigation measures should be identified that will be implemented if significant impacts to such habitats and resources should occur. The preferred form of mitigation is avoidance of adverse effects on habitat and resources by modifying, reducing, or ceasing groundwater pumping by the Project if adverse impacts are projected as a result of prior evaluations and monitoring results.

3) The Project Owner shall develop a model for predicting changes in the groundwater flow system resulting from the Project which has the capability to assess changes in hydraulic head, flow rate, flow direction, and water budget. The Project Owner shall also provide to the County model runs which predict effects of the planned groundwater pumping by the Project on the habitats and resources described above and predictions of the level of groundwater pumping that will cause significant impacts on such habitats and resources. The Project Owner shall also use the model to provide an evaluation of the sustainability of the water supply for the life of the project, including the cumulative sustainability when considered with other pumping occurring or projected to occur in the groundwater basin.

4) The Project Owner shall develop and provide to the County the following:

   a. A plan for a network of monitoring wells (either existing or to be constructed) to be regularly monitored together with a schedule for reporting water levels in the wells to the County by the Project Owner. Construction of production and monitoring wells (water level monitoring should be initiated as soon as wells are available and results will be publicly available);

   b. A plan for logging and aquifer testing of all new production wells;

   c. A plan for monitoring and reporting on the impacts of the Project on private wells and on habitats and resources described above.

   d. A plan for verifying the predictive tools described above and for revising or recalibrating the tools during project operation.

   e. A plan for revising thresholds as dictated by new data concerning system response to Project operation.

   f. An enforceable commitment based on monitoring data and significance thresholds, to implement mitigation measures as necessary.

Comment # 4: Water Use Offset Plan (page 4.15-32). Condition of Certification Water Supply – 1 requires that the Project Owner shall submit a plan "showing that it will replace 4,900 acre-feet or 163 AFY and the [Project Owner] shall undertake one or more of the activities identified below to mitigate project overdraft impacts..." In this section, it is unclear what types of activities are contemplated. Activities such as retirement of water rights, development of artificial recharge, or salvage of phreatophyte transpiration could each be thought of as activities that replace water in an overdrafted aquifer, but these activities each have differing environmental and economic considerations. This condition of certification should be more specific regarding what activities it encompasses.

If acquisition and retirement of water rights in Pahrump Valley is approved under this condition of certification, the CEC should require that the retired rights are currently being exercised. Since the amount of permitted groundwater rights in Pahrump Valley is far greater than actual pumpage, it is clear that there are permitted rights to pump groundwater that are currently unexercised. If rights are acquired and retired that are currently not being used, there would not be an actual reduction in groundwater extraction. Retirement of water rights is effective as mitigation only if the retirement results in an actual reduction in pumping, and even then, it is only mitigation for basin-wide overdraft. Water rights retirement does not in any way mitigate for any impacts that might occur to groundwater dependent resources affected by project pumping unless the retirement results in the water table rising in the affected area. This is unlikely to happen unless the retired water rights are located approximately equidistant to the affected area as the project is to the affected area.

This condition should require that the applicant provide records showing that any water rights retired for the purpose of satisfying this condition of certification were actually being exercised. When determining how much water use offset should be credited to a water right, the offset should be based on consumptive use of groundwater, not the total water right or the total amount of water pumped. For example, if a water right that was being used for irrigation is acquired for water offset, the offset should be for the amount of water lost to evapotranspiration, not the amount permitted or the amount pumped.

Comment #5: Compliance with California mandates for groundwater elevation monitoring. This project hampers Inyo County's ability to comply with state-mandated groundwater monitoring requirements. The State of California enacted legislation in 2009 (SBX7-6, Statutes of 2009, Seventh Extraordinary Session, chaptered as Water Code 10920 et seq.) that requires all groundwater basins and subbasins delineated in *California's Groundwater*, the Department of Water Resources' (DWR) Bulletin 118-2003 (DWR, 2003), to be monitored for seasonal and long-term trends in groundwater elevation. The data collected is required to be reported to DWR who will in turn compile the data in an online system that is accessible to the public. The law identifies numerous entities such as counties, cities, water districts, and groundwater monitoring cooperatives that may assume responsibility for the monitoring. Notably, state, tribal, and federal agencies are not among the eligible monitoring entities.

To fulfill the requirements of the legislation, DWR initiated the California Statewide Groundwater Elevation Monitoring Program (CASGEM). Participation in CASGEM by local entities is voluntary; however, if no eligible local party volunteers to become the designated monitoring entity, DWR may undertake the groundwater elevation monitoring. If DWR assumes responsibility for the groundwater monitoring, nonparticipating eligible monitoring entities may lose eligibility for water grants and loans awarded or administered by the state. Naturally, Inyo County is concerned about the potential for losing eligibility for these grant funds, and wishes to comply with the requirements of CASGEM. No funding was provided in the legislation for local entities to implement this new state program.

SBX7-6 does not allow for exceptions to its requirement that groundwater elevations be monitored in all groundwater basins. In many remote desert basins in Inyo County, designation as federal wilderness or military uses render it impossible to construct monitoring wells, and additionally, many other basins have no significant groundwater pumping. To address these flaws in the SBX7-6 legislation, in August 2011, legislation passed (AB 1152) amending Water Code Sections 10927, 10932, and 10933, and authorizing that a monitoring entity may report groundwater elevations using specified alternate monitoring techniques for certain groundwater basins and subbasins meeting prescribed conditions. AB 1152 allows that, at DWR's discretion, a monitoring entity may use alternative monitoring techniques to assess whether groundwater conditions in a basin are changing. Alternative monitoring techniques may be approved by DWR if groundwater elevations are unaffected by land use activities or planned land use activities.

Approval of HHSEGS will invalidate any argument by Inyo County that the California portion of Pahrump Valley, California Valley, and Middle Amargosa Valley are unaffected by land use activities; therefore, the County will be required to either develop a program for reporting groundwater elevations to DWR, or be ineligible for state water grants and loans. In order to comply with CASGEM requirements, the County could use the groundwater elevation monitoring data proposed in condition of certification Water Supply – 6.C.4 and Water Supply – 8.C.5 if those data are made available to the County. To that end, we request that the conditions of certification be modified to require that:

> Groundwater elevations shall be measured throughout the life of the project at least twice per year, and reported to the CPM and to the Inyo County Water Department. The County will report these data to the California Department of Water Resources as part of the California Groundwater Elevation Monitoring Program.

Comment # 6: Water Level Monitoring for Neighboring Wells, Mitigation, and Reporting (Pages 4.15-36 – 4.15-40). Concerning section A.2, we understand from discussion with CEC staff that the well network will include at a minimum one well at the *southern* end of the site. Development of water level maps within the Pahrump Valley, as required by A.4, will require a network of more than the one well

indicated in A.2. Section C.3 requires that an owner provide documentation of the well location, construction, and pump intake depth. Some well owners may not have all of this information available, particularly pump intake depth. The Project Owner should be required to assist well owners with developing this information if the information is not readily available to the well owner. Concerning section C.5, monetary compensation should be on an annual basis only so that this payment transfers to any new owner of the land.

Comment # 7: Corrections. On page 4.15-11, Table 2, there appears to be an error in determining the median value. The Stateline well has a trend of -0.237, but the overall median is given as -0.273 at the bottom of the table and in the text at the bottom of page 4.15-10.

The language in WATER SUPPLY 8.C.6 appears to be more applicable to domestic wells. Likewise for the language at the top of page 4.15-45.

On page 4.15-13, in the definition of the variables for Equation 2, time should be lowercase t.

References

Amlin, N.M., and S.B. Rood. 2002. Comparitive tolerances of riparian willows and cottonwoods to water-table decline. Wetlands 22:338-346.

Amlin, N.M., and S.B. Rood. 2003. Drought stress and recovery of riparian cottonwoods due to water table alteration along Willow Creek, Alberta. Trees 17:351-358.

Bear, J. 1979. Groundwater Hydraulics, McGraw-Hill, ISBN 0-07-004170-9.

Cooper, D.J., J.S. Sanderson, D.I. Stannard, and D.P. Groeneveld. 2006. Effects of long-term water table drawdown on evapotranspiration and vegetation in an arid region phreatophyte community. J. Hydrol. 325:21-34.

DWR. 2003. California's Groundwater Bulletin 118 - Update 2003. California Department of Water Resources Bulletin 118-2003.

Elmore, A.J., S.J. Manning, J.F. Mustard, and J.M. Craine. 2006. Decline in alkali meadow vegetation cover in California: the effects of groundwater extraction and drought. J. Appl. Ecol. 43:770-779.

Horton, J.L., and J.L. Clark. 2001. Water table decline alters growth and survival of Salix gooddingii and Tamarix chinensis seedlings. Forest Ecol. and Manage. 140:239-247.

Horton, J.L., S.C. Hart, and T.E. Kolb. 2003. Physiological condition and water source use of Sonoran desert riparian trees at the Bill Williams River, Arizona, USA. Isotopes Environ. Health Stud. 39:69-82.

Horton, J.L., T.E. Kolb, and S.C. Hart. 2001. Physiological response to groundwater depth varies among species and with river flow regulation. Ecol. Appl. 11:1046-10S9.

Lite, S.J., and J.C. Stromberg. 2005. Surface water and ground-water thresholds for maintaining Populus-Salix forests, San Pedro River, Arizona. Biological Conservation 125:1S3-167.

Patten, D.T., L. Rouse, and J.C. Stromberg. 2008. Isolated spring wetlands in the Great Basin and Mojave deserts, USA: Potential response of vegetation to groundwater withdrawal. Environ. Manage. 41:398-413.

Scott, M.L., G.C. Lines, and G.T. Auble. 2000. Channel incision and patters of cottonwood stress and mortality along the Mojave River, California. J. Arid Env. 44:399-414.

Scott, M.L., P.B. Shafroth, and G.T. Auble. 1999. Response of riparian cottonwoods to alluvial water table declines. Environ. Manage. 23:34-358.

Segelquist, C.A., M.L. Scott, and G.T. Auble. 1993. Establishment of Populus deltoids under simulated alluvial groundwater declines. Am. Midl. Nat. 130:274-285.

Shafroth, P.B., J.C. Stromberg, and D.T. Patten. 2000. Woody riparian vegetation response to different alluvial water table regimes. Western N. Am. Nat. 60:66-76.

Stromberg, J.C., R. Tiller, and B. Richter. 1996. Effects of groundwater decline on riparian vegetation of semiarid regions: The San Pedro, Arizona. Ecol. Appl. 6:113-131.

REPONSES TO THE MAY, 2012 "SOCIOECONOMIC AND FISCAL IMPACTS OF THE HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM ON INYO COUNTY"

Presented to

THE COUNTY OF INYO, CALIFORNIA

by

GRUEN GRUEN + ASSOCIATES

July 20, 2012

C1299.1

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CHAPTER 1

SYNTHESIS AND RECOMMENDATIONS

We have reproduced below Table ES-1 from the May, 2012 "Socioeconomic and Fiscal Impacts of the Hidden Hills Solar Electric Generating System [HHSEGS] on Inyo County" prepared for the California Energy Commission (CEC). All of the revenue forecasts shown on that table for the construction period and the annual operating period are those of the report's authors. The expenditures shown in that table were prepared by the departments and consultants of the County of Inyo, a political subdivision of the State of California. The CEC analysis utilizes the present value calculation as a way of summing up or blending the estimates prepared by the authors of the CEC analysis.

Table ES-1. Net Fiscal Impacts on Inyo County: 28 Years, Scenario 1

	Construction (3 Year Total)	Operation (Annual)	Net Present Value
Revenues	$86,500,000	$1,100,000	**$92,200,000**
Expenditures	$11,100,000	$1,700,000	**$31,000,000**
Net Impact	$75,400,000	($650,000)	**$61,100,000**

In this response to that analysis, Chapter 2 considers the revenue forecasts contained in the May CEC report and finds them to be uncertain and significantly overstated. The estimate of $86,500,000 revenues to the County for the 3-year construction period is so large that if it were accurate, the County could invest that money in safe government bonds at 3 percent per year and earn more than $2.5 million per year. Even though, as discussed in Chapter 3 of this response, the CEC report's prediction of the County expenditures is understated, the earnings from the more than $80 million would probably cover the annual operating deficits identified by the County.

Unfortunately, as we discuss in Chapter 2, the best guess, and we admit it is a guess, of what the revenues to the County will be during the 3-year construction period, is likely to be somewhat in excess of $10 million. But even if the revenue coming to the County during the project's construction were to reach $12 million, investing that amount in 3% bonds earning $360,000 **and** assuming that the CEC report's forecast that the County would obtain $1,100,000 per year during the project's operation was correct, there would still be a 15% gap between what the project costs the County and what it pays the County in taxes and fees.

The combined effect of overstated and highly uncertain revenue forecasts in the CEC

analysis threatens the fiscal health of Inyo County, and this effect is further compounded by the discounting of the legitimate costs the County is likely to incur.

Comment 92

As this response discusses in Chapter 3, many of the deductions from the County departments' original estimates of the costs they will have to pay in order provide services to the proposed project are unwarranted. There are, however, opportunities, to reduce County costs. For example, if the applicant takes steps to improve and utilize alternative routes and cooperate with a system to keep project traffic off the road that requires an overlay to handle anticipated traffic, some moneys could also be cut from the estimated roadway improvement and maintenance costs.

However, even reducing the County's likely expenditures is not going to avoid imposing severe fiscal stress on the County, unless the uncertainties that currently apply to the CEC's analysis of potential revenues to the County's treasury can be made more certain by the following conditions of project approval:

Comment 93

1. The project sponsor shall require that all qualifying contractors and subcontractors exercise their option(s) to obtain a Board of Equalization sub-permit for the Hidden Hills SEGS jobsite and allocate all eligible sales and use tax payments to the County of Inyo.

1. That the project sponsor be required to reimburse the County for all costs associated with a consultant with expertise in sales and use tax allocation, hired by the County, to assist the project sponsor and its contractors to complete and submit all documents necessary to register the jobsite as the source of all sales and use taxes, and then work proactively with contractors and subcontractors of the project to identify and properly document all purchases in conformity with the laws and regulations of the Board of Equalization so as to maximize the amount of sales and use tax captured and allocated to the County.

Comment 94

In addition, in order to encourage economic development in the County, the CEC is asked to request that the applicant design and operate the interpretive center so as to promote and take full advantage of the potential for expanded tourism that the project has the potential of inducing. We would also point out that such an interpretive center could be developed and programmed as a multi-purpose building providing police and fire facilities, as well as a community center and emergency shelter identified as necessary to mitigate other socioeconomic and public safety impacts. Doing so will provide the developer with certain economies of scale in addressing this suite of impacts.

CHAPTER 2
EXPECTED FISCAL AND ECONOMIC BENEFITS

The revenues or fiscal benefits, as well as the jobs, income and output or economic benefits to Inyo County of HHSEGS are discussed in several sections of the May, 2012 Socioeconomic and Fiscal Impacts report issued by the CEC. Below, we first discuss the County's response to the assumptions and resulting forecasts of fiscal benefits presented in several sections of the May CEC document. Next, we consider the economic impacts forecast in the May CEC document. The third section of this response discusses the benefits foreclosed, or opportunity costs of the project, as well a likely positive economic and fiscal benefit ignored in the CEC document. The final section will make a recommendation to mitigate the uncertainties discussed in the aforementioned three sections. As discussed in Chapter 1 to this response, which reaches conclusions based on an evaluation of both the benefits discussed in this chapter and the forecasts of County expenditures discussed in the next, failure to deal with the uncertainties discussed in this chapter will cause the proposed HHSEGS to pose a serious threat to the future fiscal health of the County.

Expected Sales and Property Tax Receipts

Sales and Use Tax

Because of the long-term relationships between County expenditures to provide the services likely to be induced by the project and likely on-going revenues to the County from the operations and maintenance of the project, determining the amount of sales and use taxes likely to be garnered by the County during the 29-month construction phase is critical. To remain fiscally solvent in providing services to the project during its operations phase, those sales taxes will have to provide the County with an investment corpus large enough to fund likely annual deficits induced by the project during its years of operations and maintenance.

Page 24 of the Socioeconomic and Fiscal Impact report cited the following quotation from the BrightSource (BSE) sponsored Application for Certification (07-AFC-05C): "BrightSource worked with the County of San Bernardino to maximize sales and use tax allocated to the unincorporated San Bernardino County stemming from construction of the Ivanpah SEGS project." The CEC report continues:

> "This indicates that it will likely follow through with its intentions and do the same for Inyo County. Furthermore, BrightSource noted that even if it designated the 'point of sale' as nearby Pahrump, Nevada, it would still be subject to use tax in Inyo County.
>
> Based on these assumptions presented by the proponents, the County government could receive $84.5 million in its local shares of sales and use tax over the 29-month

construction period based on the assumptions presented in this report. During operation, however, sales tax revenues from the project will be negligible, because non-payroll O&M expenditures spent in the County amount to only $540,000 annually. Of this amount collected, only $2,900 would go to the County." (page 24; Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County)

Comment 95

The Executive Summary of the CEC impact report states, "The proposed project is expected to cost in the range of $2.9 billion in total to construct, with direct material costs of roughly $2.5 billion, based on publicly available estimates for each of the technologies." (page 1; Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County) This estimate is not otherwise substantiated, and seems to be contradicted by the following statement in Section 5.3.1 of the same report. "In addition, the assessed value of the plant facilities would be $2.18 billion for the project." (page 22) The questionable credibility of these basic assumptions concerning project costs also calls into question the entire revenue analysis, which, as we read the report, is based largely on the aforementioned cost numbers.

The CEC report goes on to assert that the project will generate sales tax revenues for the County because newly employed local workers will be spending some of their additional disposable income locally on various goods, such as food, appliances and clothing. During the 29 months, direct and indirect income suggested by the JEDI model is expected to generate $2 million from the purchases of employees, whereas during the assumed 25-year operating period, the 19 forecast direct and indirect jobs assumed to be locally employed are projected to generate nearly $43,000 annually during the 25-year operation period.

We will comment in the next section of this chapter on the credibility of the assumptions forecast from the JEDI model output for employee generated sales tax revenue. However, here we express our concern that the County place any possible reliance on the statement expressed in the CEC impact report that the County government could receive $84.5 million in "its local share of sales and use tax over the 29-month construction period." All but the very small amount of the retail sales likely to result from the direct and induced expenditures in Inyo County by construction related workers will come from the purchase of tangible personal property by the project's construction contractors and subcontractors, upon which sales tax has not been collected by a retailer. However, this potential will be maximized if, and only if, the developer of the project has exercised the option of requiring its contractors and sub-contractors to register the construction jobsite as the point of sale for all such purchases, **and institutes a very proactive program of implementing the procedures needed to properly document these purchases.**

We found that a Fair Share Contribution Agreement between San Bernardino County and the Ivanpah developer was signed on December 9, 2010. Presumably, this is the mechanism that BSE referred to when it wrote in its Application for Certification (07-AFC-05C): "BrightSource worked with the County of San Bernardino to maximize sales and use tax

allocated to the unincorporated San Bernardino County stemming from construction of the Ivanpah SEGS project." This agreement stated that $377,000 would be paid to the County annually for fire protection and emergency responsive services for the Ivanpah Solar Electric Generating Complex. However, the system put in place in San Bernardino County in order to bring sales and use tax receipts from the project during and after construction does not suggest that anything close to the $84.5 million in sales and use tax receipts that the authors of the CEC analysis claim will flow into the County of Inyo coffers, or that that the County will ever see close to the more than 3 percent of the sales and use tax that appears to be suggested by the narrative describing Table 5.5, "Sales and Use Tax Fund Distribution." (page 23 Socioeconomic and Fiscal Impacts of the HHSEGS on Inyo County)

Comment 96

Based on conversations with apposite San Bernardino officials and consultants, we believe that San Bernardino County will receive approximately $7.2 million in sales and use tax receipts from the construction of the Ivanpah project, and very little, if any, sales-tax-related receipts from the operation of the solar generating facility. The $7.2 million represents construction expenditures of tangible personal property of a little over $82 million, from which all local and county governmental agencies and districts in the county are likely to receive about $7.2 million after the deduction of a $205,000 credit to BSE. Most importantly, this amount of sales and use tax dollars will accrue to San Bernardino County only because BSE has been cooperating with an attorney specializing in sales and use tax allocations, in order to track all significant purchases to their source and assure that the complex documentation required under State law and Board of Equalization rules is provided by the vendors all over the world who sell and lease tangible personal property to project construction contractors and subcontractors.

In no way do we mean to imply by our criticism of the sales and use tax forecasts in the CEC impact report that the task of predicting such taxes is easy. Even after construction has started, adjustments are going to have to be made in the cost of purchases and in the list of items purchased and leased. Furthermore, some personal property purchased during the construction period will not cost enough to qualify for a sub-contractor to obtain a sub-permit for the jobsite since there is a $5 million minimum, or justify having the contractor doing the work necessary to capture the tax. While certainly this will not eliminate all uncertainties, we believe the best way to forecast the amount of sales and use tax likely to be collected **under the assumption that point of sale options are exercised and the current and future owners of the project cooperate fully in the complex task associated with capturing the taxes for the County**, would be to utilize the experience of San Bernardino County on this matter as a comparable. As we understand it, Ivanpah is being built to generate 370 megawatts (mw) of power, while the HHSEGS project will be built to generate 35 percent more electric power, or 500 mw. Thus, under the heroic assumption that output will be correlated with construction costs and produces an estimate of $10 million in sales and use tax receipts to the County, the County captures 1 percent of the sales and use taxes paid by the project during construction. As we will repeat in the

recommendations section at the conclusion of this chapter, unless BSE cooperates in requiring its construction contractor and sub-contractors to maximize sales tax accruing to the County of Inyo, and Inyo County engages the services of an expert in the allocation of sales and use tax to work consistently with all BSE contractors and subcontractors to make sure that the not insignificant amount of paperwork required to capture these taxes is properly filled out, can anything close to the estimated $10 million flow into the coffers of Inyo County.

The property tax revenue (discussed below) and much of the sales and use tax revenue projected to accrue to the County of Inyo in the CEC analysis is discretionary General Fund revenue available to the Inyo County Board of Supervisors to budget as it deems appropriate but which, for the purposes of the Socioeconomic and Fiscal Impacts analysis, the CEC assumes will be used to mitigate project induced impacts that could otherwise be funded through project specific conditions of approval, which would most likely be required by the County of Inyo if not for the CEC's sole permitting authority. However, even if the CEC's premise that these funds would be available to fund the cost to County programs and services impacted by the construction and operation of the HHSEGS is accepted, it should be noted that the intended, allowable, and sometimes required uses of portions of the sales and use tax monies relied upon in the CEC analysis is restricted by State and local regulations. For example, the 1.06% in the Local Revenue Fund 2011 does not go into the County's General Fund. Under Section 6051.15, this revenue is distributed by the State Controller for expenses incurred by counties for the realignment of law enforcement costs previously paid by the state. The amount in the Local Revenue Fund is distributed to counties based on formulas specified in 2011's AB 118 regardless of the jurisdiction in which the tax is collected. Similarly the .5% for the Local Public Safety Fund and the .5% for the Local Human and Health Services Fund are specifically designated and do not go into the County's General Fund. Additionally, there is no analysis or assurance in the CEC report that restricted portions of the sales taxes, such as the examples provided above, will match-up with the service and program needs identified by the County. For example, the County is not arguing that the HHSEGS project will generate significantly increased costs that it is responsible for under criminal justice realignment, yet a large portion of the sales tax is reserved for costs specific to criminal justice realignment.

Property Tax

In Section 5.3.1 of the May CEC Impact study, the proposed solar project is estimated to generate approximately $3.5 million in property taxes annually. Given the 1 percent property tax rate, this forecast assumes a base year $350 million property tax assessment for the project. This forecast is arrived at by assuming the cost of the entire facility will be $2.18 billion, of which approximately 45 percent will be taxable non-solar property, of which 38 percent will be classified as dual-use, and thus taxable at 25 percent of full value, and 7 percent will be fully taxable. We believe it is significant to note that the effective base of this

forecast is that the project will be valued at its cost of construction. Unless an agreement is made that the present and future owners of the solar plant will accept this base year forecast and not request a reassessment throughout the life of the project, this foundational assumption is highly questionable.

Comment 97

Whatever the final assessed value is, the County will only receive a little less than 30 percent of the annual tax based on this assessment. School districts in Inyo County will receive approximately 62.5 percent; and the special districts a little under 7 percent.

Mr. Eric Endler, an appraiser in the San Bernardino County Assessor's Office, told Dr. Gruen in a telephone conversation, the final construction cost of the Ivanpah project was approximately $500 million. However, after the provisions of Revenue & Taxation Code Section 73 were considered, the actual base year for Ivanpah was approximately $250 million, suggesting annual potential revenue from property taxes of $2,750,000, given the San Bernardino County property tax rate of .011 percent. However, after allocations were made to all property tax recipients in San Bernardino County, it is estimated that, assuming the base year remains uncontested, the County of San Bernardino will receive $300,000. While the scale of the two projects, when measured in terms of their electric output (370 MW for Ivanpah, and 500 MW for HHSEGS) is that the completed Ivanpah project is 26 percent smaller than the HHSEGS project, the actual property tax expected from Ivanpah is 70 percent less than what has been forecast in the CEC report to apply to the HHSEGS project, assuming that reassessments are not requested in either County.

Neither the appraiser we spoke with in San Bernardino County, nor the past experience of the Inyo County Assessor with regard to other alternative energy projects, would lead one to assume that the initial and future owners of the proposed project in Inyo County will not seek downward reassessments of the base. As is discussed in the following chapter in the subsection that deals with the forecast of Assessor's expense, that Office should assume that a project whose costs have been heavily subsidized by exemptions and assurances, at both the state and federal levels, will most likely seek to have their base year property tax lowered below construction costs, for many of the same reasons they pointed to as necessitating the receipt of federal and state subsidies.

Economic Benefits and Opportunity Costs

The regional economic model, JEDI, was used to estimate the economic benefits of both the construction and ongoing impacts of the project during operation. Important inputs to the model included estimates that during the construction phase, thirty-two (32) jobs would be created in the County directly from construction activity, and then the model was used to forecast that another seventy-seven (77) jobs would be induced through increased activity in the County. This means that during construction, total earnings by County residents would increase by $12.1 million, while the output of the Inyo County economy would increase by

$73.8 million in the full 29-month period, or about $30.5 million per year.

The model was also used to look at the effect of assuming that six (6) jobs out of a total of 120 jobs during the operation period would be filled by local residents. These jobs were forecast to "multiply" to create an additional fourteen (14) jobs, with total annual earnings of $1.1 million, with $2.3 million in output. While these contributions to the County economy are relatively small compared to the previously discussed effect of taxable construction spending and increases in the property tax base forecast, they are nevertheless quite questionable because of the JEDI model's failure to take cognizance of the geographic distribution of economic activity within Inyo County.

"Small area analysis is notorious for over-estimating local impacts." This comment was made by Prof. Geoffrey J.D. Hewings, the Director of the Regional Economic Applications Laboratory at the University of Illinois, an internationally-respected expert in regional economic analysis. Hewings' comment reflects the reality that economic activity is never spread evenly through space, but concentrated within differentiated agglomerations. Simply put, in those cases where a proposed new economic activity or construction project is located near other activity centers, input-output models such as JEDI can be reasonably depended upon, even when they deal with areas as small as a single county. However, given the sparseness of economic activity near the proposed site but within Inyo County, models such as JEDI can be quite misleading.

The area around the proposed project has very little to offer in terms of economic activity, but is close to much larger and more attractive activity in Nevada. Sixty-five percent of Inyo County's taxable sales are made in the incorporated City of Bishop. Bishop is 241 miles and, according to Mapquest, a 4-hour and 13-minute drive from Tecopa. Tecopa, again according to Mapquest, is 26 miles and 39 minutes driving time to Pahrump, while Las Vegas, NV is 82 miles and 1 hour and 38 minutes driving time.

The implicit assumptions of the generalizations of the JEDI model, which are built on an economic model which was first proposed by Nobel Laureate Wassily Leontief in the late 1930s, was preceded by Reilly's Law of Retail Gravitation to predict the area from which customers will come to various retail outlets. Reilly's Law noted that the attraction of retail outlets increased with their size and decreased with their distance from potential customers. The use of the JEDI model to estimate the indirect jobs and output that will be induced by local residents of the County working at the site violates Reilly's law, which neither Leontief nor any other economist has ever rejected. While it's impossible to make a sure-footed forecast of how many local residents will work at the project during its construction or operation, the JEDI's estimate of their multiplier effect within the County is very likely to be over optimistic.

Opportunity Costs and Potential Visitor Benefits Ignored

Comment 98

The May CEC Socioeconomic and Fiscal Impact study shrugs off the opportunity costs of taking close to 10,000 acres of Inyo County's very limited land for private development for the foreseeable future with the following sentence on page 11: "No economic losses from reduced agricultural activity are projected as the reasonably foreseeable impact is negligible. As discussed in AFC Section 5.6 Land Use, there are currently no agricultural uses within the HHSEGS site." As the County has pointed out in numerous meetings and communications, and as the County's economic consultants, Gruen Gruen + Associates, pointed out to the representatives of CH2MHill who wrote the AFC, much of the land being taken by the project is already plotted for residential use, and as County Planning Director Joshua Hart has pointed out, the long-range planning vision for the area affected by the project includes a variety of non-agricultural uses, including not only residential but eco-resort, visitor-serving uses and possibly commercial activities, as well.

The affected area, including the approximately 6,000 acres around the project that are set aside as a potential mitigation area, is approximately 9,000 acres. For a county with so little private land available for development, the loss of future opportunities for development on this amount of acreage is significant.

Comment 99

Surprisingly, the project planners and the socioeconomic report seem to have ignored the potential the project would offer for the attraction of tourists to the area. Not only does this oversight represent a gap in the CEC Socioeconomic report, it also raises the concern that the interpretive center the project plans to build will not be built and operated in a way that captures the tourism attracting potential of the project.

The June 17, 2012 issue of the New York Times Magazine featured an article entitled, "The Beauty of the Largest Solar Farm in the World." The black and white photographic visuals were stunning. This type of PR is likely to encourage visitation to the proposed Charleston View site. Those visitors who strongly support solutions to global warming are the most likely to visit the BSE solar farms.

A comprehensive study of visitors to Death Valley National Park (DVNP),[1] the nation's largest park, included the results of a visitor survey conducted in DVNP in the summer of 2010. The survey revealed that 55% of the visitors to DVNP in the summer were tourists from foreign countries, most of whom came to the park after visiting Las Vegas. Forty-five percent of these foreign visitors originated from Western Europe. There is a strong crossover between these Western European visitor respondents and their response to the question, "Should the government allocate more resources to global warming?" Over 52% of those surveyed in this DVNP summer survey felt the government should allocate more

[1] Gruen Gruen + Associates, "A County at Risk: The Socio-Economic Impacts of the Proposed Yucca Mountain High-Level Nuclear Waste Repository on Inyo County, California" Appendix C, September 29, 2010

resources. Another 19% said maybe, 14% did not offer a response, while only 15% stated no.

Comment 100

What these survey results suggest is that many of these summer visitors, along with visitors from the northwest, who also hold strong environmental values, may consider including HHSEGS in their visit to DVNP if made aware of the solar project and, as shown on Figure 1, that HHSEGS could easily be included on trips from Las Vegas to DVNP. How many visitors to DVNP traveling from Las Vegas would include both sites is a question to which we do not have an answer. To the extent they do, additional nearby lodging might be induced. In time, additional eating establishments that cater to these visitors would be induced.

It is important to point out that our 2010 DVNP sample underrepresented tour groups. Only 2.4% of our sample was part of a tour group. Most of the visitors on the tours had relatively limited to no English speaking skills, which may have been the primary reason they elected to take a tour in the first place. Most of the foreign visitors who were not on tour had at least adequate English skills. Should tour groups elect to add HHSEGS to their route, it is likely to add considerably to the wear and tear on the existing roads, but also likely to increase the demand for nearby food services.

Recommendations

In order to reduce the uncertainties that both these responses and the CEC Impact study agree exist with regard to the forecasts of revenues induced by the project that flow to the County, and maximize the potential that much of these revenues, particularly those potentially induced by the construction period, we would strongly recommend that the CEC meet the following conditions of approval:

Comment 101

1. The project sponsor shall require that all qualifying contractors and subcontractors exercise their option(s) to obtain a Board of Equalization sub-permit for the Hidden Hills SEGS jobsite and allocate all eligible sales and use tax payments to the County of Inyo.

2. That the project sponsor be required to reimburse the County for all costs associated with a consultant with expertise in sales and use tax allocation, hired by the County, to assist the project sponsor and its contractors to complete and submit all documents necessary to register the jobsite as the source of all sales and use taxes, and then work proactively with contractors and subcontractors of the project to identify and properly document all purchases in conformity with the laws and regulations of the Board of Equalization so as to maximize the amount of sales and use tax captured and allocated to the County.

Comment 102

3. That the interpretive center be designed and operated so as to promote and take full advantage of the potential for expanded tourism visitation to the project and other visitor attractions in Inyo County. As previously pointed out in Chapter I, the interpretive center could be developed and programmed as a multi-purpose building providing police and fire facilities, as well as a community center and the emergency shelter identified as necessary to mitigate other socioeconomic and public safety impacts.

Comment 103

CHAPTER 3

FORECAST OF PROJECT-INDUCED COUNTY EXPENDITURES

Introduction

In February of 2012, the departments in Inyo County considered the scale, location and activity of the proposed project, and estimated the costs from serving the demands for service likely to be induced by the initial construction and ongoing annual operation and maintenance of the project. Table III.1 reproduces those cost estimates, along with comments. The May Socioeconomic and Fiscal Impact Analysis authored by Richard McCann, presenting CEC staff recommendations, disputed these costs, seeking to eliminate the annual Health and Human Services costs with the comment that, "These costs would not create a significant environmental impact and are beyond the regulatory purview of the Commission." However, these costs are not beyond the regulatory purview of Title 21 of the Inyo County Code, and would be fully evaluated and mitigated by Inyo County if not for the sole permitting authority of the CEC. The failure of the Socioeconomic and Fiscal Impacts of the Hidden Hills Solar Electric Generating System [HHSEGS] on Inyo County report to undertake as thorough and rigorous analysis of the socioeconomic impacts of the HHSEGS project as would be carried out by the County – relying on staff experts in the delivery of County services rather than the self-serving interests of a project applicant and consultants with no municipal experience – under Title 21 calls into question the validity and accuracy of the entire CEC Socioeconomic and Fiscal Impacts analysis.

Table III.1
Forecasts of Departmental Costs Induced by Construction and Operation of HHSEGS

Departments	Initial/ Construction	Ongoing Annual*	Comments
Health & Human Services		$188,115	
Assessor	$120,000	$120,000	Specialized appraisal requiring the retention of expert appraiser and tax counsel.
Sheriff	$2,130,666	$1,269,120	Closest substation is 34 miles away, and current staff serves 3,200 square miles west of the substation.
Public Works	$8,157,000	$78,500	Reconstruction of Spanish Trail and annual maintenance
Information Services	$237,600		Assumes 30 months of high speed data communications system
Agricultural	$150,000	$50,000	Monitoring and control project targeted against introduction of invasive weeds
Waste Management	$156,000		Waste collection for 3 years from Tecopa RV Park and Charleston View area

Table III.1
Forecasts of Departmental Costs Induced by Construction and Operation of HHSEGS

Departments	Initial/ Construction	Ongoing Annual*	Comments
Motor Pool	$33,200		Lower of two estimates of trips during construction. May be as high as $66,000
Water Department	$145,000	$8,000	Estimate for creation of monitoring program and ongoing monitoring costs.
Total	**$11,129,466**	**$1,713,735**	

*Annual costs shown are for the first year. They are estimated to increase at 5% per year.

Source: Information on the project's characteristics provided by the BSE AFC and additional information provided by CH2MHill in response to questions by Gruen Gruen + Associates

In the following section of this chapter, we present a response from the Health and Human Services Department, indicating the nature, extent and rationale behind the costs that they feel will be induced upon them by the impacts of the project on health and human services. The May CEC Socioeconomic report also argued that the Assessor's estimate should be reduced from $120,000 to $50,000. A significant part of the contention between the two cost estimates results from the Assessor's belief that appeals for reassessment are likely. As discussed in more detail below, the estimated expenses outlined by the Assessor are reasonably foreseeable and properly included when determining the overall economic impact to the County resulting from the proposed project.

The May report also called for very significant reductions in the cost estimates of both the Sheriff's office and Public Works. In the following pages of this section, additional evidence in support of the original estimates is presented. The May impact report from CEC rejects all of the Agricultural Commissioner's cost estimates, contending that the required work will be accomplished by HHSEGS. Our responses to that comment, as well as projections in the cost of Waste Management, Motor Pool, and Water Department estimates, are presented in the following sections of this report.

Generalizations – Difference

The CEC report describes a general methodology for estimating costs, which we believe is flawed because it ignores the unique geographic, demographic and economic condition of the Charleston View area. Thus, the fundamental methodology or point of view that the CEC report utilizes to estimate the size of induced expenditures is inappropriate.

The general perspective that the CEC report takes to the forecasting of the County expenditures likely to be induced is expressed by the following quotation:

"From an economic perspective, it is the "marginal costs" that are created by

> economic or population growth that must be examined to determine whether or not a new project produces additional public sector costs. That is, a large portion of public service expenditures are fixed — they cannot be changed quickly. In many cases capital-related costs are sized with extra, or flexible, capacity. Other costs, such as staffing, may vary with demand and funding, but also can be "lumpy," that is, an employee is hired after a threshold level of demand or funding is added.
>
> Fixed costs such as school classrooms, fire stations, and roads will generally not be affected by a small increase in demand. For example, a dozen or more students can typically be added to a school with 500 students without creating a need to enlarge the facility. Similarly, two to three additional calls a year to the fire and police departments will not create the need for a new fire station, or even another officer. However, an additional student, or extra police visit, will result in additional costs associated with supplies, transportation, and other operating expenses. A series of such small incremental increases or a single large project can reach a cumulative threshold where a new school or fire station would be required." (page 12)

As suggested by the example used in the first line of the second paragraph above, the fact that "fixed costs such as school classrooms, fire stations and roads will generally not be affected by a small increase in demand" is, in fact, generally true. But, unfortunately, the situation in Charleston View and Inyo County is such that all too often, the needed first fire station and the capacity of the existing roads do not currently exist. Thus, we are not in the classic situation taught in the classroom where average costs decline as production is ramped up through increases in variable costs without any additions to capacity. This is a great model for a classroom, general understanding of economic realities. But applying that same model to the situation in Charleston View would be similar to having told Henry Ford that in order to build automobiles, all he had to do was move some additional workers to the River Rouge and not worry about either building a new plant or having enough workers to efficiently man the first production line. The CEC report's methodology of consistently assuming the appropriateness of employing a marginal cost approach to projecting the costs of induced County revenues versus the County's approach of actually considering the fixed capital costs and increase in staff capacities required may well account for a significant portion of the large differences between the expenditure estimates projected by the two entities. The total cost estimated by the County is over $11 million during the construction period, and $1.7 a year million thereafter, while the CEC analysis comes up with just under $2.8 million during the construction period and just under $390,000 on an annual basis.

Health and Human Services

The second paragraph on page 7 discusses the rationale behind the staff conclusion that the construction and operation of the project will not cause any additional workers to move into the local area. On page 15, the opinion of BSE and Bechtel with regard to the Ivanpah

SEGS project is expressed as follows:

> "All workers would reside within commuting distance of the proposed ISEGS site, and therefore would not need to move into the area. Therefore, no construction or operation-related impacts are expected on the local housing supply availability or demand."

Comment 104

The report goes on to point out that the HHSEGS site is located within an hour of the suburbs of Las Vegas, NV, and that Pahrump, NV is less than 15 minutes away. The last paragraph on page 15 refers to a December 12, 2011 letter from Inyo that refers to the possibility of workers living in Southeast Inyo near the project on lots or in trucks with camper shells, in order to obtain inexpensive housing. However, this letter was amended with one dated January 5, 2012, that was emailed to Mr. Monasmith on February 29, 2012. The January 5 letter suggested that, "We expect that even if a minimal number of BrightSource employees reside in Inyo County, at least some of them can be expected to require some level of HHS services, simply based on residency." The letter goes on to explain the kinds of services that would require travel to the Tecopa office by members of the County of Inyo Health and Human Services staff.

Given the differences between conditions around the HHSEGS site and the Ivanpah Solar Energy Generating Station, it does appear reasonable that some of the workers will seek to locate in Southeast Inyo County during the construction period, and possibly even during the operations period.

Health and Human Services can likely absorb any additional caseloads that result from a very small number of workers relocating to southeastern Inyo County. As stated at the bottom of page 15:

> "It is likely that the operational workforce of 120 would be largely drawn from the local population and if not, this increase would not represent a substantial increase in demand on services. In addition, *this population is likely to be employed and of working age* so demands on social services should be less than the average experienced in the region."

We agree with this assessment. However, if the assumptions are incorrect and the demand for services increases, we present in Table III.2 the thresholds for different programs that would trigger the need to hire additional staff -- either paraprofessional staff to facilitate connections to services in Tecopa, or professional staff based in Bishop or Tecopa to provide direct service.

As explained in the Health and Human Services memo dated January 5, 2012, staffing ratios to persons served can vary from 1:6 to 1:150, depending on the program. The huge variance

in staffing ratios, combined with the uncertainty around the number of new residents who may be qualified for and seek services from HHS, make it very difficult to estimate the impact to the department.

Proposed Condition: Provide funding to hire additional HHS staff in the Tecopa office or to contract with appropriate service providers, should HHS caseloads significantly increase due to an increase in project-related population.

As identified on page 4.4-5 of the Preliminary Staff Assessment (PSA):

> "Electricity generated by HHSEGS would be sent to substations 10 or 64 miles from the project site, depending on which option is implemented. The electricity would be connected to the California ISO-controlled grid and would come back into other parts of California. Natural gas used to augment the solar operation at HHSEGS would use all the natural gas provided by the 12-to-16-inch gas pipeline. Alternatively, given the fact that the 36-inch gas line would be only nine miles from the California border, it is possible that gas could be available for future development in the local area (Charleston View, Shoshone, and Tecopa). However, the scarcity of local groundwater resources and the existing land use designations are serious constraints to economic development."

Comment 105

Despite the scarcity of groundwater resources, bringing gas and electric lines to the project site could spur population growth. If so, non-project related population increases could have a larger potential impact to Health and Human Services, given that the needs of the new population would likely mirror the needs of the current population. In other words, an increase in non-project related population would have a greater, and ongoing, impact to the Department of Health and Human Services than the population growth related strictly to the project. Please refer to Table III.1 for current HHS caseload and capacity information.

Proposed Condition: Provide funding to hire additional HHS staff in the Tecopa office or to contract with appropriate service providers, should HHS caseloads significantly increase due to growth-inducing impacts.

The PSA sets forth a proposed condition requiring BSE to develop an Evacuation Procedure on page 4.5-17. In Inyo County, the HHS Social Services division is responsible for providing evacuation centers and shelter care during local disasters that result in evacuation. HHS is concerned that inadequate shelter space is available in the southeastern portion of Inyo County, in case a disaster closes evacuation routes to the east or south of the solar project.

Proposed Condition: Coordinate with Inyo County to identify and, if necessary, fund suitable shelter options should a disaster necessitate evacuation of the construction site.

Health and Human Services continues to hope that there will be a number of positions (10% of project workforce) reserved for local employable adults who reside in Inyo County. Further, the Department hopes that the developer will work with the Health and Human Services Employment and Eligibility division to include work experience and training slots reserved for CalWORKs and WIA participants.

- Table III.2 presents the current HHS caseload and staffing thresholds. We believe the above and the information contained in Table III.2 more than substantiate the estimated ongoing costs of $188,115 per year for the Department of Health and Human Services. This cost is likely to escalate in the course of inflation.

Table III.2 Current HHS Caseload and Staffing Thresholds

Division	Approximate Caseload	How Caseload is Covered Now	How Many Additional Cases Can Be Absorbed	At what threshold do we need a new employee	If adding staff, what classification
Behavioral Health	Substance Use Disorders (SUD): 1 Drinking Driver Program (DDP): 3 Mental Health: 8	SUD, DDP, and mental health contacts by videoconferencing, plus Psychiatric Nurse travels to the area bi-monthly to provide outreach. Four consumers receive counseling services from a contract provider in Pahrump.	Approximately twice the current caseload	If there is consistently more than five people required to attend DDP classes, may need an additional class (class enrollment limited to 12 people), requiring additional part-time Addictions Counselor	One part-time Addictions Counselor
Social Services-Employ-ment and Eligibility	CalWORKs: 8 County Medical Services Program: 5 Food Stamps: 17 MediCal: 14 General Assistance: 0	Occasional travel required from northern Inyo. Most applications are processed by phone, online, or by mail. Tecopa-based staff verify residency for programs, if required; collect required documentation; and do the fingerprinting, when necessary.	A small caseload increase could easily be absorbed by current staff in Bishop.	If caseload doubles, would need an additional HHS Specialist to facilitate application process.	One part-time of full-time HHS Specialist (para-professional)

Table III.2 (cont.) Current HHS Caseload and Staffing Thresholds

Division	Approximate Caseload	How Caseload is Covered Now	How many additional cases can be absorbed?	At what threshold do we need a new employee?	If adding staff, what classification?
Social Services-Adult and Children's Services	Child Welfare (CPS): 1/quarter Adult Protective Services (APS): 1-2/quarter In-Home Supportive Services (IHSS): 12 Area Agency on Aging (AAA): avg. 85 for meals.	IHSS staff travels about once every two months for client assessments. CPS/APS responds as mandated 1-2 times/quarter. We rarely have cases in APS or CPS in southeastern Inyo, but did recently have to remove a child from a home out there and that case required travel more than once per month to facilitate visits with the parent. W utilized Tecopa-based staff to transport the parent half-way to minimize total travel time.	2 CPS and/or APS investigations per month would significantly strain the current staff.	2-4 investigations per month for CPS or APS that result in services would require a full time Social Worker in Tecopa. That worker would respond to investigations, provide appropriate services, and perform IHSS assessments. This would also require regular on-site supervision (probably a Bishop-based Social Worker Supervisor who travels regularly to Tecopa plus provides daily telephone contact).	One full time Social Worker in Tecopa plus one part-time Social Worker Supervisor in Bishop.

Public Health	CA Children's Services: 2-3/yr. Clinic Services: limited Women Infants & Children: avg. 1-2 cases Medical Marijuana ID Card (MMIC): 4	For clinical and immunization services: Professional staff travel to Tecopa area twice/yr. Clinic services provided by contractor in Furnace Creek. CCS: Case management provided by phone from Bishop on average once/mo./client. MMIC: Applications collected by Tecopa staff approx...4/year and processed in Bishop. WIC: quarterly contact with clients by phone or mail from Bishop.		**Public Health-** Not likely needed. **CCS and WIC** caseload would have to increase sizably to impact staffing patterns.	

Table III.2 (cont.) Current HHS Caseload and Staffing Thresholds

Division	Approximate Caseload	How Caseload is Covered Now	How many additional cases can be absorbed?	At what threshold do we need a new employee?	If adding staff, what classification?
Tecopa	Residence verification for services; Transportation to services; Prevention/education direct services (Senior meals for AAA); Collect application paperwork and coordinate contact with professional staff.	Weekly trips (mileage for round-trip) to: Charleston View (55 mi); Pahrump (85 mi); Shoshone (16 mi). Travel to Stovepipe Wells as needed for meal pick-up (184 mi. round-trip) Travel to Bishop bi-monthly (480 mi. round trip).	A very small increase, especially in Employment and Eligibility program applications, could be absorbed.	Any increase in direct service, transportation, or resident verification would require additional staff in the Tecopa office.	One part-time of full-time HHS Specialist (para-professional)

Assessor

The County had estimated that the additional costs to the Assessor's Office during the first year and during the operational period will be $120,000 per year. As stated on page 16 of the May CEC impact report to which we are responding, Gruen Gruen + Associates had previously pointed out that ongoing annual legal costs alone to the Assessor's Office could be $50,000 (CEC-2012.D). The May CEC report rejects these costs by writing the following:

> "However, given that the majority of these costs are for adversarial legal proceedings, it would be presumptive to require BSE to pay the County's legal fees prior to the determination of the outcomes of proceedings that may not even occur." (page 16)

The historic experience that Inyo County has had in battling with geothermal energy producers amply documents the costs of litigation that are likely to be induced. Moreover, the suggestion that BSE should not be required to "pay" for the County's legal expenses misses the point of the required socioeconomic analysis. In order to determine the impacts to the County and whether such impacts will be covered by the project's anticipated economic benefits, all reasonably foreseeable costs are properly included in the calculation. Moreover, the decreased property tax revenues received by the County as a result of Revenue and Taxation Code section 73, a benefit not enjoyed by the geothermal energy producer, is also included in the calculation. The question then becomes whether the economic benefits derived from the project are sufficient to cover the economic impacts to the County.
It is ironic that the same paragraph on page 16 contains the following:

> "The staff also believes that Inyo County can generate substantial savings by sharing information and resources with neighboring San Bernardino County, which will be assessing the virtually identical Ivanpah Solar Energy Generating Station."

Dr. Claude Gruen called officials in the Assessor's Office and the Department of Public Works, in order to obtain the benefit of their experience. Mr. Eric Endler, an appraiser in the Assessor's Office, was very familiar with the property tax assessment of the Ivanpah property. He indicated that San Bernardino would hope no reassessment is requested; however, they would not be surprised should such requests be presented to them in the future, and are already taking prudent steps to prepare themselves for that possibility.

What we have learned from San Bernardino does lend further credence to the County's estimate of costs likely to be faced by the Assessor's Office as the project is assessed.

Sheriff

On page 16, the consultant's report concluded in the first sentence under Sheriff, "Reviewing the Energy Commission's staff assessment for 16 remote solar and natural gas fired power plants, project related increase in property damage and theft were not identified as issues that would substantially increase demands on police protection services. For the project reviewed, law enforcement response times ranged from three minutes to one hour." Yet on page 4.9-19 of the May, 2012 socioeconomic portion of the PSA, authored by Steven Kerr, it states that, "As such, response time to an emergency on the project site ranges between 30 minutes to 4 hours. Depending on the type of assistance needed and the geographic location of the other deputies, response time for any additional or specialized assistance could be an added 3 to 4 hours on top of the 30 minutes to 4 hours initial response time." Among other things, the differences in time between 3 minutes to 1 hour, and 30 minutes to 4 hours, would refute the validity of drawing conclusions about the demand for police protective services in and around the HHSEGS, with evidence drawn from the 16 remote solar and gas fired power plants sited by the Energy Commission staff assessment. What is not mentioned in the analysis is that the San Bernardino Sheriff has a well staffed substation in Baker, California, which is less than 51 miles (or about a 45 minute drive) from the site of the Ivanpah project now under construction.

Comment 106

The report continues,

> "Discussions with San Bernardino County Sheriff's Departments have indicated that the Ivanpah, Kramer Junction, Daggett, and Harper Dry Lake Solar Energy Generating Systems have not increased the number of incidents requiring responses by the Sheriff's Department." (page 17)

Nowhere in any of the documents has any evidence been presented that the access, proximity to other activities, level of vandalism and other types of criminal activity, that pertain to the site considered by those interviewed and data presented is similar to such conditions at the proposed HHSEGS. In addition, the report fails to report increases in call for service in Primm, Nevada, where the Ivanpah lahor force resided during construction. According to a conversation between Lt. Jeff Hollowell and the Clark County Sheriff's Department, calls for service in Primm, Nevada increased by 30% during the timeframe when the Ivanpah facility was being constructed. Unlike Ivanpah, the HHSEGS project site is surrounded by private land where intermittent squatting and illegal "camping" already sometimes occurs. Given the statements by BSE that the proposed project will be constructed under the terms of a project labor agreement, a fact completely disregarded by Dr. McCann, an increase in the local population during construction is reasonably foreseeable and, as experienced in Primm, a corresponding increase in calls for service will most certainly follow. The statements made in support of the lower demand for police services, the drastically reduced estimates of additional resident deputies, the conclusion that

Comment 107

an additional substation building would be unnecessary, simply don't stand up. Further, using the U.S. Bureau of Justice Statistics national data to estimate the average tenure of sworn officers assigned to the Charleston View area of Inyo County ignores the unique quality of life factors associated with serving long stints assigned to Charleston View. None of the evidence presented in the preliminary staff report raises to the level of validly refuting the locally-based experience and police data presented by Sheriff Lutze.

In continuing support of his estimate of $2,130,966 during construction and annual costs of $1,269,120 in normative dollars, Sheriff Lutze and Lt. Jeff Hollowell have submitted a letter and comments on the Preliminary Staff Assessment (PSA) and the impact analysis authored by Dr. McCann. These comments are attached hereto as Appendix A.

Public Works

The CEC report reduces the one-time construction costs of $8,157,000, presented in writing and testimony by Doug Wilson, the Interim Director of Inyo County's Public Works Department, by $6,944,000, suggesting that the required overlay can be compensated for. Perhaps Mr. McCann was under the mistaken impression that the County proposed a total reconstruction of the road. This is not the case. If the roadway is to sustain the traffic, and Mr. Wilson certainly did not mean one or two trucks, it must be improved with an overlay at about the price estimated by the County. To totally reconstruct the road would cost much more.

The CEC staff report also seems to suggest that Mr. Wilson believes even one truck per day would require an overlay. This is also not the case. What Mr. Wilson has contended, and we believe would be supported by an outside expert on this matter, is that even if 5 percent of the truck traffic were to go west, the overlay would be required. In Mr. Wilson's own words, "If 100% requires an overlay, then it does not follow that 50% requires 50% of an overlay."

Comment 108

If we are reading the report correctly, the estimate of traffic conditions presented is based merely on the BSE statements, which the report argues are confirmed by Doug Wilson's testimony at the May 9 workshop, that "The County was unlikely to incur large costs on Old Spanish Trail west of plant site (CEC 201D)." The report continues that this would only be the case if there were a mechanism in place to assure that traffic does not use that route. Nowhere in the report is there any indication that such a mechanism has been set up by the California Energy Commission, or that funds have been appropriated for Inyo County or a third party to establish such a mechanism. It is therefore necessary that as a condition of certification, BSE, its contractors and subcontractors be required to use that route which does not include the portion of Old Spanish Trail west of the project site and further provide for a per truck fine should the condition be violated.

At the May 9 HHSEGS workshop, speakers familiar with conditions on the relevant section

of the road voiced concern about the possible impact of an accident along Tecopa Road, resulting in the roadway being blocked for a substantial period of time. Such a blockage would prevent residents and emergency vehicles from accessing necessary services in Pahrump and/or Las Vegas, as Tecopa Road and the Old Spanish Trail are the only way in or out to the east. One citizen suggested that BSE pay for the paving of the County road currently being used by mining operations in San Bernardino County as an alternative to the routes vehicles presently intend to use to and from the project.

In the absence the condition noted above, the County believes Mr. Wilson's estimates stand. This most certainly applies as well to the estimate of annual operating cost of $78,500, which the staff report also disputes.

Agricultural **Comment 109**

The Fiscal Impact study prepared by the consultants for the California Energy Commission agrees that, "The costs projected by the Agricultural Commissioner appear consistent with weed management costs for other projects." However, the assessment goes on to argue that applicant is required by the conditions of certification "to develop and implement weed management plans." They contend that, "conditions of certification as described in the Biological Resources section of the HHSEGS PSA requiring HHSEGS to develop and implement a weed management plan, it is expected that additional weed management by the County will not be necessary." (page 19)

The County does not contest this, but feels the CEC doesn't answer the question of who will check on the weed management and take corrective action should that management not be up to the standards of the County Agricultural Commissioner. The increase in activity associated with the construction and operation of the HHSEGS correlates directly with the increase in the threat of weed introduction and a likely increase in the introduction of agricultural pests, not only on the project site but off site, which is not under the jurisdiction or monitoring of the CEC. The County Agricultural Commissioner believes the PSA underestimates the increase in vehicles and related interstate activity. He believes that monitoring and dealing with these threats requires a commensurate response from his office, increasing both demands on staff as well as travel expenses.

Waste Management **Comment 110**

The response to the County's estimate of waste management costs seems superficial at best, concluding that, "At this time, the staff believes that no additional costs will be incurred by the County for this project." As far as we can tell, this belief is based on the fact that housing conditions at Ivanpah were such that no additional waste management costs were induced. Furthermore, it was stated that Ivanpah "is similarly remote." It is our understanding that Ivanpah is very close to Primm, which has a large supply of transient housing with

considerable vacancies available in housing, and infrastructure capable of handling waste generated by additional residents.

Comment 111

As we read it, the position ascribed to the staff in the Socioeconomic and Fiscal Impact Report, authored by Dr. McCann, is that it is just too early to tell whether additional waste disposal services will be required during the construction or operation of the project. If and when the need for such facilities and costs arise as a result of the project, how will the County go about getting a determination that these costs are necessary for health and safety? Secondly, assuming that the need for such facilities is self-evident, who will be judged to be responsible for paying these costs, and how will that judgment be enforced?

Motor Pool

Comment 113

The Inyo County estimate of Motor Pool costs having trips to the area as a result of a broad variety of activities potentially related to the project, with the exception of the Sheriff's office, was $33,200 during the construction period. The report indicated that staff forecast no costs would accrue to the County as a result of people having to drive to the area, even though similar cost estimates have been provided to other projects. The rationale given was, "The Commission is fully responsible for all compliance and inspection during both construction and operation, so the County need not incur any costs to visit the worksite or the operating facility." (page 20) However, the construction of the facility will result in service needs from the County off-the project site and, therefore, outside of the jurisdiction of the Commission. Given the geography of the County, those services will, in most cases, be provided from County offices located in the Owens Valley. As a result, demands on the County's motor pool system will also increase.

Water Department

The May CEC socioeconomic report failed to understand and appreciate the grant funding impacts the County may suffer should the County fail to comply with the mandates of SBX7-6 as a result of the project. Dr. Robert Harrington, Director of the Inyo County Water Department, provided the following detailed explanation to support his cost estimates:

> The State of California enacted legislation in 2009 (SBX7-6, Statutes of 2009, Seventh Extraordinary Session, chaptered as Water Code 10920 et seq.) that requires all groundwater basins and subbasins delineated in *California's Groundwater*, the Department of Water Resources' (DWR) Bulletin 118-2003, to be monitored for seasonal and long-term trends in groundwater elevation. The data collected is required to be reported to DWR who will in turn compile the data in an online system that is accessible to the public. The law identifies numerous entities such as counties, cities, water districts, and groundwater monitoring cooperatives that may

assume responsibility for the monitoring. Notably, state, tribal, and federal agencies are not among the eligible monitoring entities.

Comment 114

To fulfill the requirements of the legislation, DWR initiated the California Statewide Groundwater Elevation Monitoring Program (CASGEM). Participation in CASGEM by local entities is voluntary; however, if no eligible local party volunteers to become the designated monitoring entity, DWR may undertake the groundwater elevation monitoring. If DWR assumes responsibility for the groundwater monitoring, nonparticipating eligible monitoring entities may lose eligibility for water grants and loans awarded or administered by the state. Naturally, Inyo County is concerned about the potential for losing eligibility for these grant funds, and wishes to comply with the requirements of CASGEM. No funding was provided in the legislation for local entities to implement this new state program.

SBX7-6 does not allow for exceptions to its requirement that groundwater elevations be monitored in all groundwater basins. In many remote desert basins in Inyo County, designation as federal wilderness or military uses render it impossible to construct monitoring wells, and additionally, many other basins have no significant groundwater pumping. To address these flaws in the SBX7-6 legislation, in August 2011, legislation passed (AB 1152) amending Water Code Sections 10927, 10932, and 10933, and authorizing that a monitoring entity may report groundwater elevations using specified alternate monitoring techniques for certain groundwater basins and subbasins meeting prescribed conditions. AB 1152 allows that, at DWR's discretion, a monitoring entity may use alternative monitoring techniques to assess whether groundwater conditions in a basin are changing. Alternative monitoring techniques may be approved by DWR if groundwater elevations are unaffected by land use activities or planned land use activities.

Comment 115

Approval of HHSEGS will invalidate any argument by Inyo County that the California portion of Pahrump Valley, California Valley, and Middle Amargosa Valley are unaffected by land use activities; therefore, the County will be required to either develop a program for reporting groundwater elevations to DWR, or be ineligible for state water grants and loans. In order to comply with CASGEM requirements, the County could use the groundwater elevation monitoring data proposed in condition of certification Water Supply – 6 and Water Supply – 8 if those data are made available to the County. To that end, we request that the conditions of certification be modified to require that:

1) Groundwater elevations reported as part of this project should be provided to the County with the understanding that the County may report those data to DWR as part of the CASGEM program. These data would be publically available through the CASGEM program.

2) Groundwater elevations should be monitored throughout the duration of the project. Specifically, Water Supply – 6.C.4 and Water Supply – 8.C.5 should be modified to require that groundwater elevation monitoring and reporting continue for the duration of the project. Monitoring should be done at least twice each year.

For the reasons outlined by Dr. Harrington, above, the estimated impacts to the County Water Department under SBX7-6 are appropriately included and justified.

Reaction to Impact Report's Discussions of Changes in Indirect County Expenditures

The comments made by the Socioeconomic and Fiscal Impact Report in Section 5.2, under the heading "Changes in Indirect County Expenditures," seem gratuitous at best. The section starts off by stating, "The solar project could result in changes to local governmental expenses, primarily in two ways. The first is increased spending induced by increased population. The second is decreased spending caused by improved socioeconomic conditions." In the following paragraph, they argue, we believe correctly, that "The applicant's plans to employ up to 1,033 workers during the peak construction period should have a negligible effect on the County's current population of 18,546, and labor force of 9,550." (page 20)

The report goes on to indicate that a majority of the workers will reside in neighboring counties. This is true, but hardly relevant, because the indirect costs of the project are not primarily induced by increases in population, but in all of the many governmental activities required to deal with issues that would not exist without the proposed project. As the Commission well knows, the costs of dealing with the application itself and responding to a variety of relevant documents, such as the Socioeconomic and Fiscal Report that is the subject of these comments, has taken a significant amount of staff and consulting time, and the monitoring of activities in the project and services to it will continue to do so after the construction starts and the project becomes operational.

A quick look at the CEC report's own estimates (see Tables 4.1 and 4.2, page 11) indicates that increase in local jobs and earnings are relatively small during the construction period, and insignificant during the 25 years of operation. Thus, while in many situations we can see where the generalizations about the indirect benefits to the local economy may outweigh the indirect costs of the project, that generalization cannot be shown to apply to the effect of the proposed solar project on Inyo County's governmental activities.

Appendix A

Response from Sheriff's Department

Date: June 14, 2012

To: Dana Crom, Deputy County Counsel

From: Sheriff William Lutze

RE: Response to Hidden Hills Project

Dana,

My staff and I have reviewed the Bechtel Security Plan, Dr. McCann's report, and the PSA.

There are a variety of issues and concerns, as detailed in Lt. Jeff Hollowell's document (attached). The Hidden Hills Project documents make many assumptions, that in some cases are not based on facts, and others simply cannot be done by law. The report, on several occasions, makes reference to other sites that are managed by Bright Source. Quite frankly, as I have stated in several meetings, the other sites are not in Inyo County; and although they are a reference, as Sheriff I have a responsibility to serve the people and protect the property within Inyo County. Law enforcement is a specialized field and there are many factors to consider when reviewing this type of impact to the area that I am responsible for.

After reviewing the Hidden Hills Project documents I have determined that as presented they have not addressed the issues regarding law enforcement and emergency services; and I remain with my original plan as presented to ensure that adequate services will be provided.

Sincerely,

William R. Lutze, Sheriff

Attachment: Staff report by Lt. Jeff Hollowell

Sheriff Lutze,

I have reviewed the Bechtel Security Plan, Dr. McCann's Report and the PSA. There are several glaring issues that I'd like to address:

Site Security Plan:

1. The plan calls for one ingress/egress point to be manned 24/7 by a security guard with various duties related to the gate and parking areas. There is no mention in the security plan of what the security guard's responsibilities are if either a conflict, theft, or other criminal issue arises in regard to contacting law enforcement.
2. The plan calls for an 8-foot chain link security fence; however, it does not mention any cameras, sensors, security lighting or roving patrols. The plan does mention inner fencing around structures, but again, no other security components mentioned.
3. The plan states the security firm has a right to search any vehicles, persons or personal equipment; and if contraband is located they will notify law enforcement if deemed appropriate by the "company". Clarification is needed.
4. They have an extensive section on "bomb threats", most likely due to homeland security concerns. As for their responsibilities regarding bombs, according to the current plan, the Site Manager is to come up with a strategy for responding to a bomb threat with the assistance of the Manager of Security out of the San Francisco office; and as for notifications, the plan states the Site Manager is to report any bomb threats to the Construction manager, Project manager and other appropriate management personnel. It does not say if or when law enforcement will be notified. This plan as written is not acceptable.
5. The security plan provided is for "construction phase" only and does not address the operational phase of the project.
6. The plan does not indicate the size of the "security force"
7. Based on the Security plan, we are at the same figures as originally proposed to the County for fiscal impacts.

Dr. McCann's Report:

1. Dr. McCann's report underestimates the responsibilities of the Sheriff's Department. Perhaps Dr. McCann is not familiar with the duties and responsibilities of the Sheriff?
2. The report assumes there will be sufficient security at the site, thereby diminishing the responsibility of the Sheriff.
3. The report further assumes there will be no project labor agreement (PLA). If there isn't one, their assumptions may be close as to workforce, housing, waste management and taxable income. If there is one, the workforce will come from California first and only after that fill from Nevada. Having said that, if the

workforce comes from California the transient occupancy within the County of Inyo would be far more than their anticipated six (existing) people. As you stated in Sacramento, we believe people will not want to stay in Nevada Hotels when they can camp, rent or just stay somewhere close to the worksite. This creates a larger demand on emergency response needs.

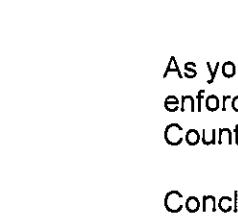
4. On Page 10 of the report, Dr. McCann states "..of the 18,589 construction personnel employed...." I have not seen that figure before.
5. On Page 12 Dr. McCann states that we will have only two to three additional calls a year for fire and police. I believe he is basing this assumption on Bright Sources' belief that they can contract with Nevada for law enforcement (due to 50 mile radius for mutual aid) and EMS. As has been stated before on several occasions, this can't happen.
6. On Page 13 Dr. McCann states that the primary burden the solar project places on police services is the need for additional patrols to prevent and investigate crimes against property. It further states their security devices (fence and gate guard) and appropriate facility design may minimize this need. We don't know what that is as it has not been outlined in the security plan or agreed to.
7. Dr. McCann's report indicates the County would also benefit from sales tax as employees will be spending their disposable income on food, appliances and clothing locally. Not in the area.
8. Dr. McCann's report states SBCSD calls for service have not increased due to the generating plants located there. I have placed a call to SBCSD and anticipate a response soon from them regarding calls for service at their multiple plants.

Preliminary Staff Assessment (PSA):

1. The PSA does not address the issues and fiscal impacts on the Sheriff's Department and eludes to the security plan may mitigating or removing impacts on the Sheriff's Department.
2. It further leaves the impression that Nye County Nevada law enforcement and EMS services are under contract with us, therefore allowing them to handle emergency calls within our county. Law Enforcement of any kind cannot by law be contracted.
3. ICEMA has a mutual aid agreement with Pahrump, but they will not allow them to contractually enter into agreement with Bright Source and provide medical services unless under mutual aid.

As you can see there are many assumptions and miss-information regarding law enforcement's role in this project. As soon as I receive the stats from San Bernardino County I will forward them to you.

Conclusion:



Based on the findings of the PSA, Dr. McCann's report and the security plan provided by Bechtel, I wouldn't change any of our responses to the CEC. Their security plan is a band-aid on what would be necessary for a 2.9 billion dollar project, especially one that will become a target of potential terrorist strikes, thefts and vandalism; as well as our responsibilities to the work force and infrastructure with regard to Emergency Service and the citizens living in the area.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

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Comments on the Preliminary Staff Assessment of the BrightSource Hidden Hills Solar Energy Generating System

JUL 16 2012

In Reference Reply to:
2801 (LLNV930)

Comment 1

Mr. Mike Monasmith
Project Manager
Siting, Transmission and Environmental Protection (STEP) Division
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, California 95814

Dear Mr. Monasmith:

This letter transmits the water-related concerns of the California and Nevada offices of the Bureau of Land Management (BLM) resulting from our review of the California Energy Commission's (CEC's) Preliminary Staff Assessment (PSA) of the Hidden Hills Solar Electric Generating System (HHSEGS). Our comments are part of our on-going effort to minimize or mitigate for impacts to BLM water-dependent public trust resources in Nevada and California.

The Nevada BLM is analyzing an associated right-of-way (ROW) application for a transmission line and a gas pipeline in Nevada, together called the Hidden Valley Electric Transmission Line (HVETL) Project, that will provide grid connection and natural gas for the HHSEGS located on private land just over the California state border.

The BLM understands that HHSEGSs would require up to 140 acre-feet per year (afy) of water, pumped from the Pahrump Valley groundwater basin. As stated in an earlier letter, the BLM is concerned that pumping from this water source, combined with cumulative impacts of other pumping, may cause impacts to the Amargosa Wild and Scenic River (W&SR) located in California, and to the Stump Spring Area of Critical Environmental Concern (ACEC) located in Pahrump Valley, Nevada.

The following items are concerns raised by BLM staff during review of the CEC's PSA and the public hearing that occurred on June 14, 2012 in Pahrump, Nevada.

Cumulative Effects:
The cumulative effects analysis should take into account all proposed development within the groundwater basin, including potential agricultural pumping as discussed at the June 14 meeting. Staff at the Pahrump and Barstow Field Offices can provide lists of all pending proposals on BLM land within their respective districts.

Biological Resources:
Condition of certification BIO-23 would require the applicant to conduct vegetation monitoring within groundwater-dependent vegetation communities located east of the project, including those within the BLM Stump Spring ACEC. The dual purpose of such monitoring would be to determine changes to biological resources and to distinguish project effects from background effects or a regional drought. A statistically significant change in biological resources is defined as a "decline in vegetation health of any groundwater-dependent species of 20 percent or more as compared to baseline values and values from offsite reference plots" (page 4.2-234). While the BLM supports this measure, additional clarification is needed to define what is meant by a 20 percent decline in vegetation health.

Soils and Surface Water:
An assumption is made in Table 6 (page 4.10-12) of the PSA that there will be negligible soil disturbance throughout the heliostat fields. Soil disturbance is a direct result of the installation of solar cells or mirrors and, to date, all technologies require some level of disturbance. Ground disturbance can occur even in relatively level areas. See attached Figure 1, where the ground surface in ISEGS disturbed heliostat fields differs markedly in appearance compared to adjacent undisturbed areas.

The applicant proposes to use the western perimeter roadway as a berm that would impound water into a retention basin, flooding a portion of the heliostat field during a 100-year storm event (PSA Figure 7). As the PSA points out, during such a storm event this berm would be insufficient to prevent flow across the roadway. Neither the applicant's plan of development nor the PSA's proposed SOILS-5 condition of certification address the possibility that flow across the roadway may cause this berm to fail, nor do they address any potential impacts of the resulting offsite flooding and scour. In particular, SOILS-5 does not require the berm to be stabilized with riprap, gunnite, or similar material that would prevent piping around the 18-inch culvert that would be the sole drainage point. Armoring of key points in this berm will be necessary to minimize risk to offsite soil resources. Alternatively, the applicant may choose not to install a berm along the western perimeter and simply allow floodwaters to pass through the heliostat field unimpaired, although this may result in heliostats being damaged or washed away.

Water Supply:
The applicant has performed an on-site well pump test, which lasted 4.5 days. We fully support the PSA's pump test review (Appendix A), which questions the assumptions, procedures, and conclusions of the applicant's pump test report. We recommend that another pump test be performed, lasting at least one week. This new pump test, combined with curve fitting for determination of the rate of drawdown stabilization at the monitoring wells, would better determine whether there is a direct link between the alluvial aquifer and the underlying carbonate aquifer. This information would help estimate the degree to which pumping may affect water resources to the east and west of the project, as well as the timing of such impacts. To get the best estimation of key subsurface parameters and impacts, it would be important for at least two of the monitoring wells to penetrate the carbonate aquifer. As shown in Figure 4 of Section 4.15 in the PSA, there are locations close to the project area where the carbonate aquifer is at or near ground surface.

Comment 5

Comment 4

Comment 3

The lack of any physical logs for any onsite or nearby wells impedes the ability to draw clear conclusions as to aquifer parameters and the impact of pumping on the aquifer. If well logs are available, the applicant should utilize them to validate its conclusions regarding the impact of pumping on groundwater. At least some of the monitoring wells should be screened in the same stratigraphic interval as the pumping well. Actual physical data from well logs rather than assumed values for aquifer parameters is critical for analyzing pump test results, and for using these results to construct a conceptual model of local and regional groundwater flow and the impacts of the HHSEGS project on this flow. If any of the above data reveal that the initial pump test conclusions were incorrect, the water supply and mitigation plans may need to be revised.

The BLM supports implementation of condition of certification WATER SUPPLY-1, which would require the applicant to replace all extracted groundwater. This is similar to a mitigation measure being developed by California BLM in discussion with the developer of the Desert Harvest solar project in the Chuckwalla Valley, as well as future developers in that basin. Unlike the Desert Harvest mitigation, however, the PSA recommendation is to require BrightSource to simply replace the extracted water at some point during the 30-year life of the project. At least some of this replacement should be required to occur early in the life of the project. Reinforcing this need is the existence of large ground cracks approximately 4 miles north of the HHSEGS site, which appear to be subsidence cracks caused by groundwater extraction in the area (see attached Figure 2); these features suggest that the basin is already experiencing an irreparable loss of storativity by diminishing local groundwater aquifers.

The groundwater monitoring network suggested by the CEC will be more robust if the number of monitoring wells is increased. The hydrologists for the BLM's Southern Nevada District and California Desert District recommend a groundwater monitoring system that would differentiate project impacts from other impacts such as climate change and other groundwater pumping within the basin. Item A1 of condition of certification WATER-SUPPLY-8 would require a monitoring network of ten wells, but only three of these would be outside the project boundary. We recommend that additional wells be included in the monitoring network. East of the project site on Nevada BLM land, we suggest five additional monitoring wells to supplement the CEC-proposed wells. Specifically, the BLM suggests two additional wells directly up-gradient from Power Block 1 and two additional wells directly up-gradient from Power Block 2 to supplement CEC-identified BLM Mesquite Bosque Wells 1 and 2, respectively. These wells should be placed at regular intervals 0.5 to 1.5 miles from the project boundary. One additional well should be installed east of the Stump Spring ACEC so as to help differentiate any drawdown east of the ACEC, for example drawdown extending from the proposed BrightSource Sandy Valley SEGS project, from drawdown emanating from the HHSEGS site. If any drawdown is measured over time at the Mesquite Bosque Wells, monitoring wells placed in the configuration described above should provide adequate information to determine whether this drawdown is originating from the project site or is due to other factors identified above.

Condition of certification WATER-SUPPLY-8 recommends only one well to the west of the project, between 2 and 3 miles from the project boundary; this well would be on the far side of an inferred fault (Figure 13 of the PSA), which may delay drawdown at that well. The BLM recommends four additional wells; like the wells recommended above, one would be placed at

Comment 8

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regular intervals up to two miles west of the project boundary. As stated above, it is imperative that the best estimates of the degree and timing of any potential impacts of the project on the Amargosa River be determined and mitigated for prior to approval of the project.

The BLM supports items C3 and C4 of WATER-SUPPLY-8, which would require the project owner to "substantially reduce, modify, or stop project pumping" if impacts are seen either at the eastern project boundary or at either of the BLM Mesquite Bosque Wells. However, these two items require pumping to cease only if the water table at the BLM Mesquite Bosque Wells drops 0.5 feet (that is, 0.5 feet below the level predicted by current trends) ***and*** plant vigor drops below the threshold set in BIO-23. We recommend a more rigorous and protective set of trigger requirements. First, we recommend that drawdown triggers also be determined for other wells closer to the project, the locations of which are discussed above. These trigger depths would be graduated based on the expected drawdown at these wells that would correlate to an 0.5-foot drawdown at the Mesquite Bosque Wells, based on results of the additional pump test and curve-fitting procedure discussed above. Second, we recommend that pumping be immediately curtailed or ceased if any of these drawdown triggers are crossed, regardless of whether impacts appear in the vegetation. By the time vegetation is noticeably affected, it may be too late for pumping curtailment to save these bosques.

The BLM appreciates having the opportunity to provide comments on the HHSEGS project. If you have any questions please contact Sarah Peterson, Nevada State Lead for Soil, Water, Air & Riparian programs at 775-861-6516; Dr. Boris Poff, District Hydrologist for the Southern Nevada District office at 702-515-5154; Peter Godfrey, Hydrologist, California Desert District, at 951-697-5385; or Dr. Noel Ludwig, Hydrologist, California Desert District, at 951-697-5368.

Sincerely,

James G. Kenna
California State Director

Amy Lueders
Nevada State Director

cc:
Mary Jo Rugwell, District Manager, Southern Nevada District Office
Erika Schumacher, Acting Field Manager, Pahrump Field Office
Bob Ross, Field Manager, Las Vegas Field Office
Teresa A. Raml, District Manager, California Desert District
William Quillman, Acting Field Manager, Barstow Field Office

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Figure 1. Oblique view of Ivanpah Solar Energy Generating System construction, showing disturbance within heliostat fields.

Figure 2. Large ground cracks located approximately 4 miles north of the HHSEGS site.

United States Department of the Interior

NATIONAL PARK SERVICE
National Trails –Intermountain Region
P.O. Box 728
Santa Fe, New Mexico 87504-0728

IN REPLY REFER TO:
NPS-NTIR Hidden Hills Solar Energy Generating Station Comments

July 23, 2012

Mr. Mike Monasmith
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Dear Mr. Monasmith:

Please accept the following comments from the National Park Service National Trails Intermountain Region office regarding the Hidden Hills Solar Energy Generating Station Application for Certification.

Thank you,

Michael L. Elliott
Cultural Resources Specialist

Introduction

The National Park Service National Trails Intermountain Region office in Santa Fe, New Mexico co-administers the Old Spanish National Historic Trail (NHT) with the Bureau of Land Management. Our office has reviewed documents and other material associated with the proposed Hidden Hills Solar Energy Generating Station (HHSEGS) project in the Pahrump Valley in California on the Nevada border. The project as proposed will consist of two 750-foot tall power tower concentrating solar collectors surrounded by thousands of heliostat mirrors over about 3,277 acres of private land in the Pahrump Valley at the California-Nevada border. The California Energy Commission is reviewing the application from the project proponent since the project area is on private land. We have been on the mailing list from the Commission for some time, and have received the updates from the proponent, the staff

assessments, and through agreement with the Commission, the cultural resources inventory and associated documents for review. We are concerned about the effects of the project on the cultural corridor that constitutes the Old Spanish NHT. The Old Spanish NHT is not just a line on the ground. It is a corridor of varying width that may not contain visible archaeological features. Moreover, the cultural resources investigations conducted for the project do not appear adequate in terms of level of effort, methodology, or assumptions to assess adequately the impacts of the project. Even given the limitations of the cultural resources work, it appears to us that there will be significant impacts to the Old Spanish NHT setting and possibly features. We believe that the results of our review, as documented below, justify our conclusions.

The Cultural Resources Investigations

The Cultural Resources Technical Report

Comment 1

The body of the report itself is very brief, containing only about 50 pages of text (most of the pages are not numbered), with attached appendices containing maps, site forms, isolate descriptions, consultation letters, and a few photos. Fifty pages do not seem adequate to discuss the results of a 3,499 acre survey, particularly when much of the material is boilerplate cultural resources background material. We request that the report be greatly expanded to cover all aspects of the project area in greater detail, particularly in regard to Old Spanish NHT resources.

The area surveyed for this report has been inadequately defined to encompass just slightly more than the actual lease area. Impacts from this project will extend far beyond the lease boundaries. The pair of 750-foot tall towers will be highly visible from as far away as 20 miles. Within five miles, the towers will loom over the currently nearly uncluttered landscape. We request that cultural resources inventory be expanded by at least five miles in all directions from the lease boundaries to include potential impacts from associated activities, visual impacts to National and State Register eligible sites, and all impacts to the nationally significant Old Spanish National Historic Trail.

Comment 2

The preparers do not specify the number of hours they spent in the field. It appears that the survey occurred over a period of about 19 field days. The number of people working each of those days is not identified. We ask that the total number of person-hours spent in the various phases of the project (background research, field work, report preparation) be specified so that we can evaluate the level of effort, intensity, adequacy of the work.

Comment 3

Comment 4

The preparers did not really describe their goals for the survey, or interpret their results in terms of archaeological or historical implications. They describe walking transects at a 10-15 meter interval. While these are standard transect intervals for general archaeological surveys, they are not adequate to identify subtle trail features that may be just a meter wide. We request that when additional on the ground survey is conducted, that it be conducted at an intensive survey interval of 3 meters or less.

The references cited do not include many important Old Spanish Trail references, including the National Park Service's feasibility study (2001), Elizabeth Warren's thesis on the Armijo Route (1974), Leroy and

Comment 5

Comment 5, cont'd

Ann Hafen's standard Old Spanish Trail reference (1954), and Hal Steiner's book on the Mojave Road section of the trail (1999). These should be incorporated into the report and discussed.

Historic Trails and Roads Technical Report

Comment 6

The project proponent and their cultural resources contractor prepared a specific study related to historic trails and roads in response to CEC staff information requests. This report shares some of the same shortcomings as the more generic cultural resources inventory report. The contractor primarily conducted a narrowly defined remote sensing study. They did not conduct additional field survey, only reconnaissance and reanalysis of "pre-existing data" (p. 3-1). Our chief argument with the findings of this report are that they clearly state that they did not consider the presence of segments of the Old Spanish NHT that are neither visible on the ground nor in satellite imagery. The further state that "The principal criterion selected for the identification of potentially historic roads and trails within 1 mile of the PAA has an archaeological foundation: In order to be included in this inventory the road or trail *must be identifiable on the ground* (emphasis added by authors, p. 3-2). This statement dooms the utility of this study in our opinion. Cultural resources include more than just tangible archaeological features or artifacts. Cultural landscapes, traditional cultural properties, and historic trails are all examples of such resources.

It is our contention that segments of the Old Spanish NHT may well lie within the project survey area, and certainly lie within the area of potential visual impacts of the project. The Old Spanish Trail Association has been working in the vicinity for years, and has identified possible traces of the trail that they documented as intervenors on this project. These may or not be visible using the methods employed by contractor, however, that does not mean they are not there and are not potentially detectable by finer-grained remote sensing techniques such as lidar, ground-penetrating radar, magnetometry/gradiometry, metal detecting, or electrical resistivity studies. Moreover, the presence of on-the-ground features is not required for eligibility of a property under National Register Criterion A.

Comment 7

The contractor also did not consider recent roads as later manifestations of older trail corridors if they did not appear on old maps. We believe this is an artificial distinction. We administer thousands of miles of National Historic Trails that lie under current roadways or railroads. Old maps often do not show old trails or road accurately.

Comment 8

The study actually identified several historic trails or roads that they did not investigate further and which may be part of the Old Spanish NHT. These resources may be eligible and will almost certainly be subject to adverse setting impacts if the HHSEGS is built. This is why we request survey of a much larger area. We do not agree with the contractor's recommendations eligibility recommendations.

Comment 9

On a positive note, we did see the standard Old Spanish Trail references missing from the original survey report in the bibliography for this report.

The Staff Assessment

We have reviewed the supplemental CEC staff cultural resources assessment. We think the staff did an excellent job in evaluating the impacts of the HHSEGS on cultural resources, including the Old Spanish NHT. The staff assessment was over 100 pages in length. The summary of their assessment of impacts to the Old Spanish NHT was: "At least one historical built-environment resource, the Old Spanish Trail-Mormon Road, has been identified in the HHSEGS PAA thus far. Substantial information, including the National Register of Historic Places nomination of the Nevada segments of the Old Spanish Trail, has led staff to conclude that, within the PAA, this resource is not represented by a single route, but as a corridor of converging and intermingled tracks and trails. The project site is located within this corridor, with traces running throughout the project site. Staff has concluded that that the impacts of the proposed HHSGS project to this Old Spanish Trail-Mormon Road Northern Corridor (Corridor) would be significant and, even with full implementation of [*mitigation measures*] CUL-9 and CUL-12, would not be mitigated to a less than significant level." We agree with these findings.

Conclusions

Many historic sites exhibit no currently visible surface archaeological manifestations. These include trails, battle sites, cultural water routes, traditional cultural properties, cultural landscapes, shipwrecks, treaty trees, and others. All these sites can have great historical significance, often under Criterion A, so the question of their eligibility revolves around integrity. The seven aspects of integrity are location, design, setting, feeling, association, materials, and workmanship. With no tangible surface remains, non-feature sites must exhibit a high degree of integrity in location, setting, feeling, and location. Any undertaking that diminishes the integrity of a property along any of these aspects must be considered an adverse effect.

The National Register Bulletin 15 states: "All properties change over time. It is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity. The essential physical features are those features that define both *why* a property is significant (Applicable Criteria and Areas of Significance) and *when* it was significant (Periods of Significance)."

Designation of a National Historic Trail is a rigorous process. The National Park Service conducted exhaustive research—both documentary and in the field—to document the significance, integrity, and location of the Old Spanish NHT as part of the feasibility study for its designation. The language of the National Trails System Act of 1968 (as amended) states: (To be designated as a National Historic Trail…) "It must be a trail or route established by historic use and must be historically significant as a result of that use. The route need not currently exist as a discernible trail to qualify, but its location must be sufficiently known to permit evaluation of public recreation and historical interest potential." The trail was determined to be nationally significant (NPS 2001:23) in terms of National Historic Trail criteria—a much more restrictive standard than National Register evaluation. Congress agreed, designating the Old Spanish NHT in 2002.

Comment 10

The Old Spanish NHT is a nationally significant cultural and historic resource. We do not believe that the nature and extent of the impacts of this project on the Old Spanish NHT have been adequately documented and evaluated because of the limited extent of the cultural resources investigations. But even given these limitations, it is reasonable and foreseeable to assume that the direct, indirect, and cumulative impacts from this project and associated activities upon the trail will be great.

For all of these reasons, it is our professional opinion that the Old Spanish National Historic Trail is present in the area of potential effects for the HHSEGS, that it has been proven to be significant, and that the project will adversely affect trail resources and the setting of the trail, and destroy its association, feeling, and location. We do not believe that these effects can be mitigated. We ask that the application for certification as currently configured be rejected in this location. Thank you for considering our comments. The National Park Service National Trails Intermountain Region office stands ready to consult with the project proponent and agency officials to choose a different and less damaging location, or a revised project with shorter and less visible towers.

Comment 11

The Nature Conservancy
Protecting nature. Preserving life.™

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Mr. Mike Monasmith
Senior Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Hidden Hills Solar Energy Generating System
California Energy Commission Preliminary Staff Assessment
Comments by The Nature Conservancy on Water Supply Assessment

Dear Mr. Monasmith,

The Nature Conservancy is a worldwide conservation organization devoted to conserving the lands and waters on which all life depends. To help reduce adverse effects of impending climate change and meet the State of California's Renewable Portfolio Standard, The Nature Conservancy supports significantly increasing renewable energy generation and transmission. We believe that we can both meet the state's goals for renewable energy production and protect desert species, communities, and ecosystems.

Our organization has been directly involved in the federal and state solar development siting and environmental review processes. The Nature Conservancy's role has focused on encouraging siting of large solar facilities in locations that are both economically sound and compatible with retaining the desert's vital ecological resources, including groundwater that supplies critical imperiled desert springs and wetlands.

Since the early 1970's, The Nature Conservancy has pursued conservation of the uniquely rich and fragile aquatic and riparian systems in the bi-state Amargosa basin. This region is home to more endemic, rare and listed species than any other area of similar size in the continental U.S. It depends almost entirely on perennial groundwater flow to support both its natural and human communities. Protection of groundwater resources is thus the paramount concern for The Nature Conservancy --as well as for federal and state resource agencies and local residents.

The proposed Hidden Hills Solar Energy Generating System (HHSEGS) plants propose to pump groundwater from aquifers in Pahrump Valley, within the Death Valley regional groundwater flow system. We commend Bright Source for employing dry cooling technology and otherwise agreeing to reduce water use to low levels, an especially significant effort, given the amount of power that will be produced by the planned Hidden Hills plants. However, additional pumping, even of small amounts of groundwater, from already stressed desert groundwater basins

such as the Pahrump Valley Groundwater Basin (PVGB), where the HHSEGS site is located, can lower critical groundwater levels and adversely affect springs, seeps and wetlands, protected species, as well as other water dependent resources and domestic and municipal water supplies in the area. Reductions of even a foot in groundwater levels, for example, can cause losses and severe declines of aquatic and riparian species such as spring snails, voles, and desert fishes found nowhere else in the world[1].

The Pahrump Valley alluvial and deeper carbonate aquifers are nested within the Death Valley regional groundwater flow system. These aquifers supply water to local springs, mesquite woodlands and other groundwater dependent vegetation, as well as local residential wells. These aquifers are also thought to be linked to, and, after an uncertain transit time, to supply water to the Amargosa River and its vital spring tributaries in the Tecopa and Shoshone California area[2].

The hydrogeology in this portion of the Death Valley regional flow system is not well known. The US Geological Survey (USGS) has done the most extensive work in the region. USGS has constructed a regional groundwater flow model that, based on limited data for this southern portion of the flow system, predicts that precipitation high in the Spring Mountains in Nevada enters the groundwater system there and flows southwest as groundwater into California, beneath and through the Pahrump Basin, under the Nopah Range, and eventually makes its way into the Wild and Scenic Amargosa River and its stream, spring and seep tributaries. The California Energy Commission (CEC) Preliminary Staff Assessment (PSA) Water Supply (WS) analysis references this understanding stating that, based on local gradients, "the basin-fill in Pahrump discharges through most of the Nopah Range." PSA WS at 4.15-11.

However, because the hydrogeology in this portion of the Amargosa is particularly complex and poorly understood, a collaboration between the USGS, the Bureau of Land Management (in both California and Nevada), Inyo County (prospectively), The Nature Conservancy, and the Amargosa Conservancy is funding a series of studies to probe and then model, in fine scale, the subsurface natural "plumbing" of this portion of the Death Valley flow system. These studies are ongoing, and are not yet fully funded. Final results are approximately five years away[3].

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[1] The Devil's Hole pupfish, while a unique example, demonstrates that water level declines of even inches can cause significant negative impacts to protected species.

[2] The CEC PSA water supply analysis agrees that HHSEGS proposed pumping and the Amargosa system are linked, but discounts the effects of the pumping based on hypotheses about time and distance. We believe the effects cannot be so dismissed (see Attachment 1), and we propose below reasons why this linkage is important and steps to ensure that adverse effects on the Amargosa River and its rich ecological communities will not occur.

[3] A proposed program of studies has been prepared by the USGS and is available from that agency's Henderson, NV office. The goal is to develop an adequate understanding of the hydrology and populate a fine-scale groundwater flow model that can be used to predict the effects of pumping and other stresses on the system.

The HHSEGS applicant proposes to drill six new wells within the project's boundaries. These wells would be drilled into the Pahrump Valley alluvial aquifer to depths and in locations not yet finally specified. The wells would be used to extract a total of 288 acre feet of water per year during an approximate three year (29 month) construction period, followed by 140 acre feet per year during an assumed 30 year initial operating life. [4]

The CEC's PSA water supply analysis concludes that three conditions require mitigation to address the likely adverse effects of HHSEGS groundwater use, and proposes monitoring and mitigation requirements to compensate for the 1) exacerbation of overdraft conditions in the Pahrump Valley Groundwater Basin, 2) water level declines potentially affecting the Stump Springs BLM ACEC and other groundwater-dependent vegetation, and 3) lowering of water levels in local domestic wells. While the PSA rejects compensation for effects on the Amargosa River and its tributaries, the PSA WS would require a single offsite monitoring well in the direction of the Nopah Range and California Valley to detect future effects on the Amargosa.

The effects of the proposed HHSEGS pumping on local as well as regional groundwater dependent resources are remarkably indeterminate, and predictions of long term effects exceedingly unreliable. The applicant asserts, based on a truncated 4½ day aquifer performance test (APT, or pump test) and the use of a simplified groundwater model that HHSEGS groundwater pumping will not cause significant effects beyond the boundaries of the project site over 30 years. [5]

The CEC PSA critically reviewed the applicant's conclusions based on the abbreviated pump test (Water Supply Assessment, Appendix A). The Nature Conservancy also contracted for a summary review of that test, the applicant's model and the CEC PSA water supply analysis by an independent hydrological consultant, Johnson Wright, Inc., This review is included as Attachment 1. The Johnson Wright analysis questions the validity of the applicant's conclusions based on the test and modeling results. The admitted deficiencies in the applicant's groundwater model and aquifer test dramatically underscore the nearly total absence of data and consequent lack of science-based understanding of what

[4] The applicant's power tower technology uses much less groundwater than parabolic mirror facilities, but more than photovoltaic facilities generating equivalent amounts of electrical energy.

[5] Two other prior pump tests were conducted that resulted in widely varying transmissivity values. Raw data from those tests were not made available, nor, based on confidentialty issues, were well logs from the limited number of local wells that CEC staff and applicant may have used their analyses. Applicant apparently made limited use of these two previous pump tests, and it is difficult to determine the extent to which publicly unavailable well log or water level data was used by the CEC or Applicant. We believe that any reliance on undisclosed or unavailable information is inappropriate in reaching conclusions about the effects of groundwater use.

direction and how far and fast the HHSEGS pumping cone of depression will propagate and how the withdrawals will affect the regional water balance.[6]

The Johnson Wright review included consideration of the PSA Water Supply analysis and the most recent presentation by CardnoEntrix on behalf of Applicant at the June 14th workshop in Pahrump. That review emphasizes that the CardnoEntrix and CEC PSA conclusions on the effects of proposed groundwater pumping based on such limited information are clearly not warranted.

The PSA correctly notes that the proposed HHSEGS pumping would represent a relatively modest fraction of existing groundwater extraction from the Pahrump Valley Groundwater Basin, and a quite small fraction of outstanding water rights in the basin in Nevada.[7] However, pumping from the basin exceeded sustainable levels for decades, and water levels recorded in wells across the entire Pahrump Valley Basin already show a sustained decline over recent decades.

Beyond the ongoing regional water level declines, other factors make the HHSEGS pumping significant from an ecological and groundwater mitigation perspective:

- The HHSEGS is only the first of a series of likely solar facilities that would be dependent on pumping groundwater from the basin—including another pending application by Bright Source for a power tower plant named Sandy Valley, but actually located in the southern Pahrump Basin.
- Unlike agricultural water use, solar water use is "hard"— in the sense that all of the water will be consumptively and steadily used, very likely for periods of many decades, perhaps centuries, beyond the initial 30 year operations window.
- While there has been considerable pumping from the northern Pahrump Valley basin in Nevada, there have apparently been only a handful of wells drilled and modest quantities of water extracted from aquifers in the

[6] As Applicant's groundwater expert report observes: "Typically, several hydraulic aquifer coefficients and parameters are required when creating a groundwater model. These parameters include transmissivity, storage, specific yield, boundary conditions such as leakance, aquifer thickness, recharge, and depth of the pumping wells. For this site only an approximate measurement of transmissivity is available. This lack of detailed aquifer property information constrains the modeling approach that can be employed to only a simplified model package that assumes homogeneous aquifer properties." HHSEGS AFC , Appendix 5-15G at 3.0.

[7] The project will average 167 acre feet per year, including the construction period pumping. Estimated pumping from the basin is 13,000+/- acre feet year. Outstanding water rights in the basin in Nevada , including rights that attached to approved but unbuilt residential lots, probably exceeds 70,000 acre feet.

southern portion of the basin in either California or Nevada[8], accordingly, information about the effects of pumping on ecological resources and other water users in this relatively undeveloped portion of basin is notably sparse.

- Finally, pumping to support solar development is a new use of groundwater, and, as such, is subject to limitations based on the priority of the Amargosa Wild and Scenic River designation.

The Nature Conservancy believes there is justification for considering water use by this facility as essentially permanent; as a result, we recommend analyzing the effects of project pumping over a much longer period. The PSA analysis does not adequately take into account potential long-term consequences of the HHSEGS pumping and that of other cumulative groundwater uses in the Pahrump Valley[9]. We believe that the PSA analysis should be extended using assumptions that the HHSEGS pumping will be continued for at least [illegible] that effects will propagate over 200 years or more, and that the effects of additional PVGB groundwater pumpers, including, but not limited to, the facilities listed in the PSA, should be added to the analysis to provide better approximation of the cumulative effects of this facility's pumping combined with that of other reasonably probable water users.

Comment 1

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This analysis of longer-term impacts is critical and justified because adverse effects from groundwater withdrawal can take a very long time to propagate through to distant springs and water dependent resources, even following the cessation of pumping. By the time effects are noticed through monitoring, it is often far too late to restore the health of these resources. [10]

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[8] The PSAWS analysis of effects is in fact based upon bifurcating the PVG Basin into north and south sub basins. WS at 4.15-11 et seq. As noted, water levels in the entire basin have been in decline for decades, with decline rates in the southern portion slower than in the north (~.25 ft/yr/ vs ~1 ft/yr), where agricultural pumping and residential wells have been concentrated.

[9] Note that in the EIS analysis of the effects of pumping by the Solar Millennium facility in Amargosa Valley NV, the time period considered was 200 years. See: Amargosa Farm Road Solar Project Final EIS, (NVN-084359), Volume II, Appendix B--Groundwater Modeling Report: http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy/proposed_solar_millenium.html

[10] This is the reason, for example, that the Nevada State Engineer (SE) and BLM, in the context of the approval of the Southern Nevada Water Authority (SNWA) requested permits to pump groundwater from aquifers in rural Nevada counties and pipe it to Las Vegas analyzed the effects of groundwater pumping over more than 200 years, based on well documented groundwater flow models. The SE has approved only a portion of the SNWA's requested pumping, requiring, in essence, a very long term aquifer test prior to allowing additional pumping, and providing that pumping can be halted in the event that adverse effects are noted. See BLM-- Clark, Lincoln, and White Pine Counties Groundwater Development Project Draft EIS, Volume 1A, Chapter 3.3 (water resources) June 10, 2011; http://www.blm.gov/nv/st/en/prog/planning/groundwater_projects/snwa_groundwater_project.html. See, also, a short paper by John Brehehoeft at http://aquadoc.typepad.com/files/groundwater-monitoringfor-mitigation_-will-it-work.pdf , and The Nature Conservancy's critical comments on the BLM's draft EIS, dated September 16, 2011, included in public comments section at http://www.blm.gov/nv/st/en/prog/planning/groundwater_projects/snwa_groundwater_project/draft_eis_public_comments.html.

Placed in a cumulative and long run perspective, the HHSEGS pumping potentially will initiate very significant new burdens on this segment of the regional flow system and its dependent springs and ecological communities – including Stump Spring, nearby mesquite dune vegetation, and the Wild and Scenic Amargosa River and its protected resources[11].

The Nature Conservancy believes that the CEC staff analysis of effects is about as thorough and theoretically correct as possible under the prevailing factual circumstances, but, given the almost total lack of understanding of local hydrology and the long-term effects of pumping in this desert system, the PSA conditions provide insufficient protection for high value and unique protected ecological resources.

The monitoring and mitigation steps outlined in the PSA represent a good start. However, we believe that the program must be augmented to more accurately predict, and more quickly detect and compensate for possible harm in the face of significant long-term hydrologic uncertainties. The high level of uncertainty warrants a very conservative approach, imposing reasonable but clear and effective conditions that would halt HHSEGS pumping if adverse effects are likely. Accordingly, we have the following recommendations.

Comment 3

Monitoring

Given the lack of information about the effects of pumping from the Pahrump Valley aquifer in the Hidden Hills location on local and distant resources, a well-designed monitoring program, including an adequate number of properly placed monitoring wells and enforceable and public reporting requirements, is especially critical. Condition WS-8 in the PSA states that the monitoring network "protects areas that maybe within the influence of project pumping during the project life." We believe that the intended design of the network should be extended to areas or resources that may be influenced by project pumping well beyond the project period and for a minimum of 100 years, given that operations at the HHSEGS facilities are almost certain to continue well beyond the first licensing period. It is simply unrealistic to expect that renewal of the plant's operating franchise would be withdrawn three decades hence, even if severe groundwater problems were encountered.

The PSA WS recommends requiring the applicant to drill and periodically sample water quality and levels in a minimum of 10 monitoring wells. We support requiring an array of monitoring wells located in sites selected as best for detecting offsite

[11] An excellent summary of the Amargosa River system's ecological resources is contained in the Biological Resources section of the PSA at page 4.2-43 et seq. While neither the river nor any of its tributary springs are shown as being located within the unrealistically uniform concentric drawdown isopleths in the PSA WS Figure 23, several important springs are shown to be within 5000 meters of the outer ring and many more within 2-3 miles.

effects from HHSEGS pumping and other groundwater withdrawals on key ecological resources, drilled to at least the same depths as HHSEGS production wells and equipped with continuous recording devices. However, we recommend that additional wells be required, that well locations be more clearly specified in the final staff assessment, that all drilling logs and other data on well construction, testing, and performance be made public.

We also recommend that applicant conduct at least one additional reasonable length pump test to supplement the results of the initial truncated test, using newly drilled production and monitoring wells. This additional pre-construction pump testing is warranted because of the limitations of the recent aquifer performance test and accompanying model, and the lack of geological and aquifer data in the area.

Comment 4 Comment 5 Comment 6 Comment 7

ing at ll-de performance test after in one or more planned production wells and several associated monitoring wells--prior to the commencement of construction and permanent installation of the rest of the wells--would provide the applicant and the CEC with valuable data about how to site other wells and whether the initial assumptions about the aquifer configuration and the absence of off-site drawdown were correct.

Although the terms of applicant's lease have not been revealed, it seems reasonable that additional wells could be drilled this summer (2012) and tested prior to the Commission's issuance of final Conditions of Certification. Review of the aquifer testing results can then be used to confirm whether the applicant's initial assumptions were correct; if not, the plan and CEC's Conditions for Approval should be appropriately revised. We recommend that, as in the case of other required pre-approval resource investigations (e.g., biological, cultural), gathering critical information about effects on the groundwater resource should be done before approvals are issued.

Further, The Nature Conservancy recommends that the CEC require a total of three offsite monitoring wells (i.e. adding 2 wells) to the southwest of the HHSEGS site to detect possible effects on the Amargosa River and its protected resources. In particular, these wells should be designed to determine levels, direction, and flow in the alluvial aquifer and also to probe whether there is communication between the alluvial aquifer and the regional carbonate aquifer. If significant drawdown is detected or carbonate/alluvial aquifer communication is established, conditions on project pumping should be specified.

Additionally, because of the intense public interest in groundwater issues, WS-9 should provide that all of the monitoring wells should include continuous data logging and recording devices and that the raw data and all reports be promptly placed on a public CEC website .

Mitigation

TNC applauds the PSA approach to mitigation—requiring both permanent reduction in water use in the Pahrump Valley Groundwater Basin and monitoring-based triggers requiring reduction or cessation of pumping occasioned by adverse effects on ecological resources. However, we believe that these mitigation measures need to be clarified and strengthened.

Reductions in Basin Groundwater Use

The Water Use Offset plan (WS -1) requires the applicant to submit a Water Supply Plan that outlines how a total of 4900 acre feet of water, or 163 acre feet per year over the 30 year life of the project, will be replaced through as yet unidentified "activities." The applicant's plan must be approved by the CPM prior to construction or well operations. We support this plan approval condition; moreover, because of its importance in determining the adequacy of groundwater mitigation, we recommend that the complete plan should be submitted prior to and included with the final staff assessment, and be subject to public review prior to its approval by the Commission.

Comment 9

We recommend that WS-1 be interpreted to require actual, steady, contemporaneous reductions in PVGB pumping equivalent to the pumping by HHSEGS, we also strongly recommend replacement of groundwater use at a ratio of greater than 1:1[12], for several reasons:

- Given the severe over-allocation of water rights in the basin (65,000+ acre feet allocated versus 12,000-19,000 acre feet of perennial yield) it is unclear whether the retirement of even senior, active and historically exercised water rights will be effective to reduce water use over a 30-year period. This fact, in itself, warrants acquisition and retirement of water rights well in excess of project pumping rates.

- Little pumping from wells in the southern section of the basin has occurred in the past. Most of the active water rights that could be acquired by the applicant for compensation are apparently located in the northern section of the basin. Long-term water levels have declined in the southern area, but only about a quarter as rapidly as in the north, but presumably as a result of the propagation of pumping effects from north to south in the PVGB. The estimated average rate of water level drop is 0.25 foot per year in the south vs 1.0 foot per year in the north. Roughly, then, if acquisition of northern basin water rights are to be permissible compensation, our recommendation is that acquired rights should be at a 4:1 ratio to project pumping to

[12] Applicant's technical report originally committed to acquire up to 400 acre feet for mitigation, a commitment which was then withdrawn as an error. Applicant is now apparently committed to offset its water usage, and has listed a number of possible options, many of which would not represent permanent retirement of active water rights. See Applicant's Data Responses 1-A, ##s 39 and 40 at pp 33-34.

effectively compensate for long term storage reductions in the southern portion of the basin.

- If, as seems likely, the water rights proposed for acquisition are agricultural rights, the relative certainty of pumping (hardness of the water use) for the solar facility as compared with agricultural use further justifies requiring a compensation ratio that is significantly greater than 1:1.

We also encourage the CEC to provide more clarity around how the PSA compensatory mitigation obligation would work in practice. The PSA appears to allow the applicant to acquire either an annual 167 acre feet/year or a gross quantity of water rights (4,900 acre feet) with no specified time period for the acquisition. While we do not think the PSA contemplates this result, the mitigation obligation theoretically could be satisfied, as an extreme example, by a single-year lease of 4,900 acre feet of water, promised to be executed at the end of the 30-year operating period. Moreover, the mitigation obligation is framed as "one or more activities," which would apparently not compel the applicant to actually acquire and retire active, senior water rights in the PVG Basin[13].

Comment 10

Comment 11

Comment 12

We recommend that the mitigation obligation be stated categorically to require contemporaneous acquisition and permanent retirement of actively used, senior water rights in the Pahrump Valley groundwater basin of four times the projected annual average project pumping rates of 167 acre feet/year— a total of 668 acre feet/year.

Triggers for reduction in water use by HHSEGs

We strongly support the PSA requirement to reduce or cease groundwater pumping in the event that adverse effects to ecological resources are occasioned by HHSEGS water use. This requirement is of cardinal importance given the lack of information about the hydrology of the area and the importance of the potentially affected ecological resources.

However, we object to the specific trigger conditions proposed in PSA's biological resources (BIO-23 and 24) and water supply (WS-8) sections as Conditions for Certification, because these Conditions will not adequately protect groundwater-dependent ecological resources before they are likely to experience significant harm.

[13] Several of the compensatory mitigation options listed by Applicant in its data responses (see footnote 12, above) would not require acquisition and permanent retirement of water rights. In light of the gross over-allocation of water rights in the Pahrump Valley basin and the fact that Applicant's use of water is very likely to be perpetual, if mitigation is not limited to acquisition and permanent retirement of active, senior water rights in multiples of proposed use, further and more rapid declines in the southern basin water levels—and the Amargosa system-- are likely.

This statement from the Biological Resources section of the PSA (4.2-170) reveals the PSA's sound underlying rationale for imposing adaptive action in the event of predicted adverse effects on protected ecological communities:

> *Given the cumulative concerns..., combined with the limited quantity and reliability of the data, and the ecological significance and sensitivity of the resources at risk, a conservative approach must be applied that combines long-term groundwater elevation monitoring and monitoring the health of the mesquite, with clear and detailed triggers for adaptive action if* ***impending*** *impacts are detected. (emphasis added).*

BIO 24 states:

> *"Thresholds for remedial action... are designed to* ***avoid impacts to the mesquite woodlands and other groundwater-depende*** ***(GDE) near the project before they result in a loss of resources,*** *or a significant impact to habitat functions and values." (emphasis added)*

Comment 12a

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However, the PSA's trigger conditions will not satisfy these goals. Rather than averting the harmful effects on the ecologically important Stump Springs and Pahrump Valley mesquite Metapatch before resources are lost, the PSA conditions would essentially require proof of a 20% decline in the health of the baseline resource, plus a showing of a statistically significant water level decline, combined with demonstrations that the declines are attributable to the applicant's activities and cannot be attributed to regional drought conditions or other pumping. This is an unwieldy and unworkably difficult test; and, if it were proposed to be invoked to limit pumping, protracted litigation would almost certainly ensue.

Despite a very detailed, sophisticated proposal in the biological resources analysis that would be used determine when the 20% effects level is reached, this trigger would not provide the intended result of avoiding adverse impacts. Once the 20% level is reached, irreversible harm is likely inevitable because of the usual nature of groundwater systems. That is, by the time adverse effects are first detected in resources remote from the pumping location, the time lag to recovery after pumping ceases will cause further and prolonged declines in water levels before they begin to recover, resulting in permanent loss of habitat and dependent ecological resources. Lastly, there are significant difficulties in establishing that decreases in water levels are not due to drought or other extraneous factors, including other groundwater pumping.

We recommend that the CEC establish clearer and more effective trigger conditions. Given that we lack understanding of the local and regional hydrology and an accompanying detailed groundwater flow model that could be used to predict and avoid adverse impacts, the only reasonable alternative is to set very conservative trigger conditions. We recommend that Applicant cease groundwater pumping when specified, measurable water level declines are detected in offsite groundwater

monitoring wells, sited to predict whether the cone of depression caused by HHSEGS pumping is moving toward Stump Spring or other ecologically protected resources, including the Amargosa River. The currently proposed tripartite test, which requires that the agency show offsite water level declines, plus adverse effects on ecological resources, and to exclude other possible reasons for the effects will not protect resources. Most importantly, once a triggering water level decline occurs, applicant should have the burden to establish that any water level declines are wholly caused by drought or other circumstances for which they are not responsible.

We thus advocate permit conditions requiring, once offsite water levels decline or any decline in vegetation health is detected, that the applicant demonstrate that those effects are not the result of their pumping.

We note that this test would be compatible with the applicant's assertions that the effects of its groundwater pumping will not propagate offsite or affect ecological resources.

Comment 2

The Amargosa River

In 2009, a 27-mile perennially flowing reach of the Amargosa River in California was added to the national Wild and Scenic River System, adding inchoate but legally effective federal water rights protections to BLM's previous Area of Critical Environmental Concern. This area of the river and its vital fresh water tributaries support many listed, sensitive and endemic species. The PSA WS analysis states:

> *...the proposed project has the opportunity to reduce groundwater flow that would otherwise be received down-gradient. If this was the case, the project could have the opportunity to capture water that would otherwise flow to the Amargosa River. WS at 4.15-19*

However, the PSA concludes that because "potential impact(s)are ... so far into the future and so distant from the proposed project that it could not be reasonably discerned from other stresses in the regional hydrologic system" (id), "The proposed HHSEGS project would not be expected to have a measurable impact to the Amargosa River or its tributaries. " WS 4.15-1

While minimizing the potential effect of the HHSEGS pumping on the Amargosa, the staff report acknowledges that its analysis is not supported by subsurface data because these data are not available. For this reason it recommends the drilling and monitoring of a single well between the HHSEGS site and the Amargosa River to detect project-induced water level declines in the aquifer between the project site and the river.

We recommend that at least three monitoring wells be required between the project site and the Nopah Range, adequate to determine both water levels in, and effects of

pumping on, the alluvial aquifer, as well as whether the alluvial aquifer and deeper carbonate aquifer are in communication[14]. We also recommend that CEC specify mitigation requirements, including pumping cessation or reduction in the event that specified water level declines (greater than one foot) are noted in any of the monitoring wells or other adverse effects are detected.

The Amargosa River is a critically important regional ecological feature. Wild and Scenic River status protects and lends priority to the river's flows over new uses of water that may adversely affect the river and its tributaries. The CEC should ensure that the river, its spring tributaries, and ecological resources are adequately protected by conservative conditions on project groundwater use to avoid adverse effects before they occur. This will require a well- designed monitoring network, development and use of a predictive groundwater model, and adaptive trigger conditions.

Comment 14

Comment 15

Thank you for the opportunity to comment.

Alfredo Gonzalez
Regional Director
South Coast & Deserts

[14] We have attached a proposal for the location and costs for the three wells prepared by Johnson Wight, Inc., the firm whose principal investigators have done significant hydrology work in this region.

Attachment #1

Date: July 17, 2012

To: Project File – JWI1305

From: Jon Philipp, Andy Zdon

Subject: Summary Memorandum - Review of Hydrogeologic Analysis, Proposed Hidden Hills Solar Electric Generating System Project, Inyo County, California

The following memorandum summarizes three previous documents prepared by Johnson Wright, Inc. (JWI), providing comments on hydrogeologic analyses conducted to evaluate the potential impacts to groundwater of the proposed Hidden Hills Solar Electric Generating System (HHSEGS). Based on the following assessment, the project applicant has not provided the requisite supplemental hydrogeologic knowledge regarding the site or surrounding areas to justify the conclusions its consultants have reached. Little is known about the subsurface in this area, and attempting to make general land management decisions based on "assumed understandings" of the groundwater system in the project area is not appropriate. Moreover, recent investigations in the Amargosa Basin indicate that the conceptual hydrogeologic model for the area may vary considerably from that which has has been long-held. For example, a recently installed monitoring well along the Amargosa River north of Shoshone, California suggests a considerably different relationship between the Amargosa River and groundwater flow beneath it at that point than previously believed. Additional hydrogeologic characterization is clearly needed to support a reasonable analysis of the potential impacts of the proposed project, and to provide the basis for sound land management decision-making. For example, a properly-run and documented aquifer test has not yet been completed at the site and should be conducted. As well, the hydrogeologic investigation conducted thus far has not established (and was not designed to evaluate) a disconnect between project pumping and flow in the federally-designated Amargosa Wild and Scenic River flow system.

Groundwater Modeling – Impact Analysis

As part of the Bright Source Energy August 2011 Application for Certification (AFC) for the Hidden Hills Solar Electric Generation System (HHSEGS), Cardno-Entrix (Entrix) authored two documents both titled 'Groundwater Modeling Technical Memorandum.' These two documents were included in the HHSEGS AFC as Appendix 5.15F (July 12, 2011) and Appendix 5.15G (July 20, 2011). The documents describe the results of a modeling exercise

designed to predict the extent of groundwater drawdown in response to a range of potential short and long-term groundwater pumping scenarios at the HHSEGS site. A review of both documents shows that minimal site-specific hydrogeologic information was available, which necessitated the use of a very simplistic groundwater model that does not represent known hydrogeologic conditions (for example the presence of geologic structures such as faults and non-basin fill materials). At the time these documents were written, the applicant's aquifer testing on site-specific wells had not yet been conducted and the results of that testing were not available. The results of previous aquifer testing that were used in the analysis have not been presented and therefore the quality of that work which forms the basis of the analysis cannot be evaluated. There was an absence of site characterization by the applicant prior to the modeling analysis, and modeling was solely based on the sparse existing data for this part of the Pahrump Groundwater Basin. Thus, the results of the modeling have substantial uncertainty and the current model is inadequate as a predictive tool.

In general, the Appendices detail the modeled results of two primary scenarios:

1. The effect on the regional aquifer as a result of the planned pumping of 200 to 280 acre-feet per year (ac-ft/yr) during the two to three year construction period of the HHSEGS facility is detailed in Appendix 5.15F.
2. The effect on the regional aquifer as a result of the planned pumping of 140 ac-ft/yr during the 25 year lifespan of the HHSEGS facility is detailed in Appendix 5.15G.

The primary issue is the technical basis on which the model was built. In Appendix 5.15F, which focuses almost exclusively on modeling results, Entrix states, "The set-up and results of the original model were discussed in a previously submitted technical memorandum (dated July 3, 2011)." This July 3, 2011 memo was not included in the HHSEGS AFC and is not included in the list of documents related to the HHSEGS facility on the California Energy Commission (CEC) website. However, the Appendix 5.15G document does offer more information as to what was apparently relied upon to create the model used in both scenarios.

In Appendix 5.15G, Entrix acknowledges that water for the HHSEGS facility will be pumped from the Basin-Fill aquifer and that, "in the project area, wells of 300-400 feet deep are likely sufficient to provide the required yields for the Project." A 1966 APT conducted in the vicinity of the proposed HHSEGS facility by Geotechnical Consultants estimated aquifer transmissivity to be 7,225 gallons per day per foot (gpd/ft). No additional details of the Geotechnical Consultants APT were included. Another similarly located APT performed in 2003 by Broadbent and Associates estimated the aquifer transmissivity to be 4,675 gpd/ft.

Entrix noted that the short duration of the Broadbent and Associates APT precluded obtaining reliable storage coefficient values or estimating leakance.

Entrix does not mention what model was used to simulate the various pumping scenarios. They understand that "several hydraulic aquifer coefficients and parameter are required when creating a groundwater model." Entrix then acknowledges that "For this site only an approximate measurement of transmissivity is available. This lack of detailed aquifer property information constrains the modeling approach that can be employed to only a simplified model package that assumes homogeneous aquifer properties". For the model, the transmissivity value of 7,225 gpd/ft was used. To represent a "typical semi-confined [aquifer] condition", a storage coefficient of 0.01 was used. The analytical method used for calculating drawdown was Theis (1935), which is a confined aquifer solution. A regional groundwater gradient of 0.01, taken from groundwater surface maps, was applied to the model. In order to account for uncertainty in the one aquifer parameter Entrix had to work with, they ran each model scenario with a transmissivity of 7,225 gpd/ft, followed by runs with half that transmissivity value and with twice that transmissivity value, respectively. The model results can be seen in Appendix 5.15F and Appendix 5.15G in table format and graphically as nearly concentric circles of drawdown around the pumping center-- as would be expected from such a simple modeling approach.

The inherent simplicity of the model employed combined with the absence of site specific data (i.e. the only physical value used in the model was aquifer transmissivity derived from the Geotechnical Consultants APT) disconnects the model results from a reasonable simulation of existing conditions. The lack of site specific information then imposes no reliable constraints on the model; therefore, the model is not useful as a tool for predicting drawdown impacts related to any pumping scenarios.

The most important piece of missing information is the detailed geology under the HHSEGS site to the depth of proposed project production wells (the maximum depth Entrix believes a well would have to be drilled for adequate water to meet project needs is 400 feet, although applicant has recently suggested that deeper wells may be employed). This information could easily be obtained by supplemental drilling and collecting soil core data. Currently, neither the depth of the actual water bearing zone is known , nor if there are multiple water bearing zones. The water bearing zone materials are also unknown. Without APT-derived pumping test data, a primitive site conceptual model could still be prepared based on the soil core information, leading to some better informed assumptions as to what appropriate aquifer coefficients and parameters should be used in an analytical model. **Comments Regarding Aquifer Testing**

The March 2012 document titled 'Long-Term Aquifer Performance Test Report' (APT Report) by Entrix summarizes the design, implementation, analysis and conclusions of an aquifer performance test (APT) conducted at the future site of the HHSEGS. A thorough review of the document has revealed deficiencies in the design, implementation and analysis of the APT that question the conclusions reached by Entrix regarding the proposed HHSEGS long term project pumping impacts. The following paragraphs highlight the deficiencies,and their relevance to the Entrix conclusions.

In general, the biggest deficiency is the lack of a data-based conceptual site model of subsurface conditions. It is important to the proper design of an APT to identify the water bearing zones (aquifers) and the low permeability zones (aquitards) separating them. Entrix has compiled a narrative of regional geologic conditions based on previous investigations around other portions of Pahrump Valley and has made some assumptions as to what they believe geologic conditions are like under the HHSEGS site. In general, Entrix summarizes HHSEGS site conditions as follows:

> The HHSEGS site is underlain by Quaternary sediments, which form the primary water bearing units within the basin. Channel gravels become finer grained upward, becoming mudstone near the top of the sequence. The mudstones are overlain by silt and thin gravel beds. These deposits record a change from a fluvial and lacustrine condition during the most recent glacial cycle to the arid conditions found today (Flynn, et al 2006). The maximum thickness of the alluvium is at least 800 feet (DWR, 1964).

The summary suggests variable subsurface conditions ranging from mudstones, which would likely act as an aquitard, to gravel beds, which would likely act as an aquifer. However, no HHSEGS site specific information has been collected below a depth of 200-feet below ground surface (bgs), which was done during the installation of the observation wells Entrix used for the APT. In short, knowledge was lacking regarding site specific conditions below that depth when the APT was designed, run and analyzed.

The pumping wells used during the APT were wells already in existence on the HHSEGS site, including the Orchard Well and Well #3. Well #3 was evaluated using a down-hole camera. This well was found to be cased to a depth of 790-feet bgs and open hole from 790 to 970-feet bgs, which indicates that; 1) water is being drawn from a depth of 790-feet or greater and 2) the surrounding formation from 790-feet bgs and below is lithified enough to not collapse on itself in the absence of a well screen. The Orchard well was only evaluated

for total depth, which remains unknown as the device used to measure total depth was not long enough. Thus, one of the pumping wells has an inlet below 790-feet bgs while the inlet of the other pumped well is unknown. In both cases, the boring logs for the pumped wells were not included in the APT Report, so the assumption is they were not made available to Entrix. Accordingly, geologic conditions in and surrounding the pumping wells are unknown. In contrast to the pumping wells, the observation wells were installed to a shallower depth of 200-feet bgs. With the partial exception of well MW-6, all of the observation wells were screened within clay and silt formations which are generally considered aquitard material rather than aquifer material. In short, the Entrix APT pumping wells are in unknown geologic formations (potentially lithified) and, in the case of the Orchard Well, the pumping inlet is at an unknown depth, while the observation wells are set many hundreds of feet shallower in geologic formations generally more akin to aquitard material.

Entrix encountered several difficulties during the data collection phase of the APT. The most significant was the premature end to the APT when the pumping equipment in Well #3 fell to the bottom of the well. In general, the longer the duration of the APT, the better and more informative the results, as the cone of depression will continue to expand as pumping continues. The foreshortening of the test introduces additional uncertainty to the test results, especially when using the results to make long term predictions related to water availability.

Other issues surrounding the Entrix data collection efforts related to the APT which have to potential to add uncertainty to the APT results include:

1. Something happened to the transducer in pumping Well #3 50 minutes into the test. There is a nearly two hour gap in data collection from 50 minutes into the test to 2 hours and 40 minutes into the test.
2. Manual depth to water measurements in the pumping Orchard Well do not match the data collected by the transducer. At some points, the difference is as much as five feet.
3. It seems as if there were only four data points collected from observation well MW-1 during the first 5 hours and 42 minutes of the test. It also seems that drawdown was 'zeroed' at 5 hours and 42 minutes into the test.
4. It seems as if there was only four data points collected from observation well MW-2 during the first 5 hours and 39 minutes of the test. It also seems that drawdown was 'zeroed' at 5 hours and 39 minutes into the test.
5. There are only two manually collected data points from observation well MW-6 during pumping portion of the APT.

6. A seemingly arbitrary 'zero' point was chosen for the transducer data collected from Stump Springs. Although this method would still show a response in the monitoring well, this is another example of how the field work conducted during the APT varies from standard water resource investigation techniques and adds concern to the data collection efforts. Future aquifer testing should be conducted with independent oversight.

Entrix used the commercially available software package Aqtesolv to analyze their APT data. According to Section 5.2 of the APT Report, Entrix used Aqtesolv to fit each observation well's time vs. drawdown curve "to the appropriate type curve" to determine aquifer properties. Although not explicitly stated, this suggests that multiple solutions were tried until a best fit was encountered. In all cases, the best curve fits were from the family of curves used to describe leaky aquifers: Entrix specifically called out both a Hantush-Jacob solution curve and a Neuman-Witherspoon solution curve for specific data sets. Both of these solutions specifically describe a situation where the aquifer being tested resides beneath another aquifer separated by an aquitard. The solutions take into account water sourced from both the pumped aquifer and from water leaking though the aquitard to the pumped aquifer from the aquifer above.

Despite the fact that the solution curves fit the data generated by the recorders in the observation wells, due to the lack of subsurface information, the geologic situation the solution curves solve for has not been established at the HHSEGS site. It should also be noted that Entrix assumed a 1000-foot aquifer thickness in their solutions, which may be contradictory with the leaky aquifer concept, and suggests the pumping well and the observation wells are all in one continuous water bearing formation. If this situation is true, an unconfined aquifer solution may be more appropriate for the data. Finally, one primary caveat related to the curve fit aquifer solutions is that the pumping well fully penetrates the aquifer and that flow to the pumping well is horizontal. This cannot be true, assuming that Entrix's 1000-foot aquifer thickness is valid, which would introduce additional error to the analysis. In short, there is a lack of information about the local geology or depths to aquifers and aquitards, a significant difference between the depth of the pumping wells and the depth of the observation wells, and a seemingly arbitrary application of aquifer test solution curves and aquifer thickness values.

In summary, there are significant deficiencies related to the design, implementation, and analysis of the APT conducted at the HHSEGS site. The most critical is that there is an absence of knowledge of local geologic and hydrologic conditions from which to design a successful test. Entrix designed their APT with no local knowledge of the subsurface below

200-feet bgs, used pumping wells installed into unknown formations and at unknown depths, and used observation wells that were between 300 and nearly 800 feet vertically offset from the pumping wells, and which does not follow standard practice. Any conclusions drawn from such a test are suspect. Additional concerns regarding the collection of data, the duration of the APT, and the way the data were analyzed only add to the uncertainty of the APT results.

California Energy Commission (CEC) Preliminary Staff Assessment (PSA)

The PSA for the HHSEGS was released by the CEC during May 2012. The Water Supply section of the PSA (Section 4.15) addresses potential impacts on groundwater resources by the proposed HHSEGS, including impacts to the Amargosa River. In the summary of conclusions for the Water Supply section, the PSA states "The proposed HHSEGS project would not be expected to have a measureable impact on the Amargosa River or its tributaries." JWI believes there is an insufficient technical basis to support this statement.

Comment 16

In general, there is a scarcity of data related to the hydrology of the southern Pahrump Valley, California Valley, Chicago Valley and the Amargosa River. Also poorly understood are the groundwater interconnections between these aforementioned areas. Data supplied by the applicant has not increased the base of knowledge.

The applicant has attempted to quantify the effects of direct groundwater impacts related to the proposed pumping at the HHSEGS site via two methods. The first method was the use of a simple analytical groundwater model to show the cone of depression likely resulting from 25 years of project pumping. The available data for use in the model was limited to a value for aquifer transmissivity derived from a 1966 aquifer performance test (APT) conducted near the HHSEGS site. All other aquifer parameters were assumed values. The resulting cone of depression extended into the Nopah Range suggesting impacts might extend into California Valley (which is hydrologically linked to the Amargosa River), but not as far as the Amargosa River itself. The second method used by the applicant was to conduct an APT at the HHSEGS site using two pumping wells and an array of monitoring wells. The results of the applicant's APT suggested that the cone of groundwater depression resulting from 25 years of project pumping might not extend past the HHSEGS site boundaries. As described earlier, these results are suspect based on significant concerns related to the applicant's design, implementation and analysis of their APT. Further, it is not appropriate to use an APT to make long-term conclusions regarding impacts. An APT solely allows for the evaluation of hydraulic characteristics which are then used as input in a subsequent analysis to evaluate long-term impacts. In summary, the applicant's APT and modeling efforts have

not added to the understanding of the groundwater flow system at the HHSEGS site or in the surrounding areas.

In order to determine if groundwater pumping at the proposed HHSEGS site might have an impact on the Amargosa River, the PSA used a model similar to the applicant's model to show the possible cone of depression resulting from 30 years of project pumping. Using a range of values for aquifer parameters based on the CEC Staff's best estimates, groundwater surfaces were generated for 30 years of proposed project pumping at the HHSEGS site. The resulting cone of depression extended into both Chicago Valley and California Valley. While these assumed drawdowns did not directly intersect the Amargosa River, the project pumping could potentially affect groundwater levels in these valleys that have a defined connection with the Amargosa River.

Comment 17

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The PSA also utilized the existing dataset to make general statements about regional groundwater flow. Regarding regional flow from the HHSEGS site, they state,

> "Although a map of the potentiometric surface constructed from available water level data suggests that groundwater in Pahrump [Valley] has a southwesterly flow direction, limited data is available to suggest that groundwater flow in the southern portion of the Pahrump Valley would discharge at the Amargosa River. Potentiometric contours suggest the possibility that groundwater that could be captured by the proposed HHSEGS site has a flow path that may not intersect the river, but would instead flow to the south."

There is no significant data to support or refute the scenario suggested by the above paragraph. The PSA acknowledges this lack of information in the next paragraph by stating,

> "…that flow from the Pahrump Valley, to Chicago Valley, to the Amargosa River could be limited, based on preliminary geochemistry data (ARM 2011a). Unfortunately very few wells exist in between the proposed project and the Amargosa River, which would help to identify flow paths and potential discharge to the Amargosa River."

The PSA is entirely correct in acknowledging the lack of adequate subsurface data supporting or refuting groundwater flow connections between the HHSEGS site and the Amargosa River through the intervening valleys. Impact(s) to the Amargosa River related to project pumping cannot and should not be discounted.

Finally, the PSA performed a travel time calculation for groundwater flowing between the HHSEGS site and the Amargosa River assuming a direct connection. Assuming a travel distance of 20 miles, a hydraulic conductivity (K) value of 1 foot per day (ft/d), a porosity of 0.2 and a gradient based on the difference in groundwater elevation between the site and the river, the calculated groundwater travel time was over 3,000 years. Increasing K to 15 ft/d reduced the travel time to 214 years. These calculations do not reflect the potential for the actual groundwater flow path between the HHSEGS site and the Amargosa River (assuming it exists) to significantly reduce those travel times. For instance, Willow Creek Wash, located at the southern end of California Valley, is a very narrow canyon filled with very recent and unconsolidated alluvium though which g[illegible]d potentially travel at much higher velocities than those calculated in the PSA. Additionally, the water flowing in this wash often becomes surface flow in the China Ranch area and often remains so all the way to the confluence with the Wild and Scenic Amargosa River. Both of these flow properties would have the effect of shortening the groundwater travel time from the HHSEGS site to the Amargosa River. Groundwater flow system specifics are not accounted for in the PSA travel time calculations due to lack of data, and thus should not be discounted by assuming "no effect."

Comment 19

Comment 20

More critically, the travel time for a particle of water to reach the Amargosa River from Pahrump Valley has little relationship to hydraulic effects, which can be transmitted nearly instantaneously over long distances within a confined aquifer. The result is that an estimate of travel time from Pahrump Valley is not a conservative assessment of potential effects to the Amargosa River.

In conclusion, the applicant has not substantially added to the needed body of hydrogeologic knowledge regarding the site or the surrounding areas. Additionally, the CEC PSA forms conclusions about the potential for the HHSEGS project to impact flows in the Amargosa River based on an inadequate base of knowledge about the local and regional flow systems. Falling back on 'assumed understandings' about the system is not appropriate based on recent drilling along the Amargosa River which altered 50+ years of one 'assumed understanding' regarding the relationship between the Amargosa River and the underlying groundwater. Ultimately, additional data points, most significantly monitoring wells both at the HHSEGS site and along suspected flow paths to the Amargosa River, will be needed to answer the question of connectivity.

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July 21, 2012

Commissioner Karen Douglas, Presiding Member
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Hidden Hills Solar Electric Generation System: Comments by the Amargosa Conservancy on the California Energy Commission Preliminary Staff Assessment

Dear Commissioner Douglas:

The Amargosa Conservancy, with headquarters in Shoshone, California, is a non-profit conservation organization devoted to preserving the land, water and beauty of the Amargosa region. We appreciate the very open process that the Commission staff has conducted in addressing the Hidden Hills Solar Energy Generation System (HHSEGS), Application for Certification (AFC) and for providing ample opportunities to comment and sponsoring several local workshops where a wide range of views and opinions from the applicant, residents and organizations can be exchanged and fully aired.

As it is described in the PSA, the Amargosa Conservancy opposes the HHSEGS project. If the Commission were to approve the project, substantial mitigation, above and beyond what the PSA has recommended, would be necessary. We outline below our objections and concerns--as well as mitigation and other recommendations--for this massive $3 billion industrial facility that will be the bellwether of additional development.

We encourage the Commission and its staff to continue providing additional public workshops prior to and after the publication of the Final Staff Report. We believe that this project, if approved, will have very significant negative long-term effects on the natural communities in this region, and widely varying effects on the human population in two states.

I. Groundwater

Previous comment issues unresolved

The Conservancy has previously submitted extensive comments to the California Energy Commission (CEC) on detecting and averting effects from proposed groundwater pumping by the Hidden Hills Solar Energy Generation System (HHSEGS) from aquifers that are hydrologically connected to the Wild and Scenic Amargosa River and its groundwater-fed tributaries. Unfortunately, none of the issues our organization raised in those prior comments on groundwater use have been resolved. If anything, we have become even more concerned about proposed water use by this plant and by that of other utility-scale solar generation plants and the related regional development projects that are quite likely to follow in its wake.

Data absent

In particular, the data relevant to assessing groundwater impacts in this region are extremely limited, and the Applicant's repeated assurances that its long term pumping will have no off-site effects, based largely on guesswork rather than on collection and analysis of additional subsurface information, are distressingly dismissive of concerns raised by this organization, the BLM, and Inyo County, among others.

The Applicant's and the PSA's predictions unsupported

Applicant asserts that project pumping over the life of the project will not affect biological resources or wells beyond (or much beyond) its property boundaries, relying on scant geologic mapping, scattered, publicly undisclosed well logs, inadequate pump test data, and simplistic groundwater modeling. The latest assertions by Applicant's groundwater consultant are contained in a PowerPoint slideshow that was aired at the June Pahrump workshop. The slides speculatively propose one possible version of subsurface conditions to predict effects of HHSEGS pumping over a 25-year period, but add little or nothing to the real understanding of this complex system. Predictions are only as reliable as the data used to prepare the presentation; and it does not appear that any new information was obtained or used to buttress the very slim portfolio of available information. The PSA analysis uses the same sparse data and simplistic modeling techniques as the Applicant's consultants to predict the effects of the project's groundwater pumping.

Uncertainty

The key issue facing the CEC is what to do in the face of great uncertainty in the hydrogeologic properties of the area—and thus whether and how pumping impacts will propagate and affect off site resources.

Effects on the Wild and Scenic Amargosa River—Monitoring and Mitigation Required

One principal concern of the Conservancy is that groundwater pumping in the southern portion of the Pahrump Valley will affect the Wild and Scenic Amargosa River and its spring tributaries. Despite the fact that little pumping has occurred to date in the southern portion of the valley, water levels have been steadily dropping in most of the wells in this area from which data is available, apparently the result of pumping further north in the Pahrump Valley. The USGS regional groundwater flow model posits flow from the Spring Mountains through Pahrump Valley under the Nopah Range and through California Valley and thence into the Amargosa River. To us, this raises a serious unresolved issue of whether long term HHSEGS pumping will adversely affect the river and its tributaries. The solution, in the face of significant uncertainty, is to require clear and enforceable monitoring and mitigation conditions that will require reductions or cessation in pumping if monitoring predicts effects are likely to occur.

Amargosa effects could be rapid and significant

Although the PSA water supply analysis acknowledges that HHSEGS pumping might affect the Amargosa, it discounts that effect based on calculations of the length of time that the pumping effects might take to affect the river— using the same inadequate body of data discussed above. The attached analysis commissioned by the Nature Conservancy by Johnson Wright, Inc., hydrogeological consultants, posits other likely routes by which the HHSEGS pumping might well affect the river much more quickly and directly than the PSA analysis estimates. We believe that it is incumbent on the Applicant and the CEC to rule out these effects and to require mitigation (e.g., pumping cessation) if effects are predicted by water level declines in appropriately sited monitoring wells.

Comment 1

Longer term analysis required

The analyses by the Applicant and included in the PSA are limited to predicting effects of pumping for the first 30 years the plant will be operating. We believe this analysis period is far too short for two reasons: first, the plant will undoubtedly operate and pump groundwater far beyond the 30 year first period. Second, the effects of groundwater pumping usually propagate for long periods after pumping has stopped, and by the time that effects are detected in critical resources, it is too late. By the time recovery starts to occur after pumping ceases, water dependent life is often eliminated. Other analyses (e.g., the BLM environmental assessments of the Amargosa Valley solar plant and the Southern Nevada Water Authority's proposal to pump water from remote valleys to Las Vegas) have appropriately predicted effects over much longer terms—200 years or more. If that same standard were to be applied here, the likely effects on the Amargosa system would undoubtedly be apparent.

Monitoring and mitigation recommendations

The PSA proposes that Applicant install a single monitoring well between the project and California Valley, but would propose no mitigation conditions in the event that water level declines are detected. This is clearly inadequate. We suggest that at least three monitoring wells be located west of the project site, completed in the alluvial aquifer in the producing horizon from which the project will be pumping water. Moreover, to establish whether the HHSEGS pumping will affect the carbonate aquifer, at least one well should have a dual completion in the alluvial and carbonate aquifers. (We note that the BLM's recent comments on the PSA support installing monitoring wells penetrating the carbonate aquifer.) If future water level declines in these wells predict effects on the Wild and Scenic Amargosa River, pumping should cease or be curtailed; however, the Applicant should first be given a reasonable opportunity to demonstrate that the water level changes are not due to its operations.

Comment 2

With regard to the groundwater dependent resources, in an attempt to protect groundwater dependent resources, the PSA water supply and biological resources conditions would require mitigation in the form of a temporary pumping cessation; however, before groundwater pumping is modified or discontinued over the long-term, the PSA requires the CEC to meet the burden of satisfying three difficult conditions: a water level decline of .5 foot, that the health of water dependent vegetation had declined by 20%, and that these effects were not due to actions or conditions beyond the control of the Applicant. This is nearly an impossible burden, and enforcement would be extraordinarily expensive, difficult, and protracted even in the face of clear adverse changes. Moreover, by first requiring a demonstrable decline in the health of vegetation, remediation would very likely be too late to avert permanent harm to the target resources.

The Conservancy believes that declines in the water level in off-site monitoring wells sited to detect impending effects on key resources alone is a sufficient trigger for mitigation requirements, both for the groundwater dependent resources and the Amargosa River. In addition, vegetation effects should be included as a triggering condition as an independent basis for pumping reduction.

Comment 2a

Mitigation burden of proof is key

In our view if a clear and easily enforceable groundwater level trigger is reached, the Applicant should have the burden of proof to establish that their operations are not the cause of the decline and, if the Applicant cannot meet this burden within a reasonable period time, groundwater pumping should cease.

Comment 3

Compensatory mitigation: purchase of water rights

Both the PSA and the Applicant propose compensatory mitigation for groundwater pumping by employing some (largely undefined) method to offset project water use on a 1:1 ratio. The Amargosa Conservancy supports such compensatory mitigation, but

Comment 4

Comment 4, cont'd

believes that the nature of the obligation as proposed in the PSA and by the Applicant poses significant issues and requires clarification and improvement.

The offset obligation, if framed to require reduction of Pahrump Valley basin water use, should be limited to permanent retirement of active senior water rights with a long and documented history of steady use, located closest to the project site, approved by Nye County and the Nevada State Engineer—and in multiples of the proposed project use. Multiple retirements are necessary for compensation because of the fact that the Pahrump basin is grossly over allocated, so retirement of even senior active rights may well have no positive effect on reducing basin water use, even in the short run. Also, because offsetting rights may likely be available only in the distant northern section of the Pahrump Basin in Nevada, effective mitigation for impacts of project water use on nearby resources also justifies a higher ratio. Accordingly, we suggest at least a 4:1 permanent retirement ratio.

II. Alternatives

The PSA acknowledges that the project will have significant adverse impacts on the environment. Under such circumstances, California law requires that there be an analysis of alternatives to the project that would avoid or substantially reduce the impacts of the project. The alternatives analysis in the PSA is inadequate and should be significantly expanded.

Comment 5

The Final Staff Assessment should analyze alternative sources of water to supply the project in the event that trigger conditions require the cessation or reduction in groundwater pumping. In addition, the Commission should more seriously examine alternative locations such as Sandy Valley and other technologies such as solar PV and distributed generation. Alternative locations would avoid or substantially reduce the necessity to pump groundwater from an over allocated desert basin in which water resources are in secular decline because of pumping beyond sustainable amounts. Solar PV would eliminate the need for two 750 foot-high towers.

III. Cumulative Impacts

CEQA Guidelines define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (Cal. Code Regs., tit. 14, § 15355.) The Guideline continues: (a) "[t]he individual effects may be changes resulting from a single project or a number of separate projects" and (b) "[t]he cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (*Ibid*.)

Comment 6

The proposed natural gas pipeline and transmission line associated with the project are likely to draw and accommodate both additional electrical generation capacity as well as collateral development. The Hidden Hills plant is not only the first development, but it is also the proximate cause of additional economic activity in the Pahrump area that will require significant new water usage. Because the electrical and natural gas transmission lines associated with the project are subject to approval by the BLM and are being addressed in an EIS being prepared by the BLM, the PSA largely defers analysis of the cumulative impacts of the projects to the BLM. In its comment letter on the PSA, the BLM requests that the CEC conduct a more rigorous cumulative impact analysis. The Conservancy agrees with the BLM. The EIS is not currently available; thus, a complete cumulative impact analysis is not available to the CEC or to the public and the cumulative impacts of the project have not been fully assessed as required by law. In the absence of such an analysis, California law requires that the CEC conduct such an analysis and include it in the Final Staff Assessment.

Comment 7

We believe that the CEC is required to take a much more serious look at the potential, long term effects of all of the existing and allocated water rights in the Pahrump Valley basin and of the potential cumulative impacts of groundwater pumping by the project in combination with groundwater pumping by other reasonably foreseeable projects on the Amargosa River and on other groundwater dependent resources. While the PSA has included a short list of current and future projects, the list is not complete, and does not include other forms of water pumping and use (e.g., agricultural pumping).

IV. Cultural and Visual Resources

The HHSEGS plants, if built, will cause unacceptable changes in the character of our rural desert area. The massive 750 foot high towers, mirror fields and generation equipment will industrialize our area but provide little economic benefit for our small local California communities or Inyo County. The viewshed from the Old Spanish Trail Highway will be very substantially altered. The segment of Old Spanish Trial from the Spring Mountains through the Amargosa Canyon, a portion of which is documented to pass through or vary near the HHSEGS site, is one of the least disturbed and intact sections of any historic trail in the US southwest. Mule and wagon traces can still be easily seen, with the vistas yet unchanged and the rigors, solitude and grandeur of the trail imagined. Native American religious, burial and ceremonial sites and practices will be adversely affected. The obtrusiveness of 750 foot night-lighted towers will be ever apparent and will destroy dark sky views.

Comment 8

Comment 9

The Final Staff Assessment should more seriously examine alternative locations such as Sandy Valley and other technologies such as solar PV and distributed generation. Alternative locations and distributed generation would avoid the visual and cultural impacts of the project to the Amargosa region and solar PV would eliminate the need for the two 750 foot-high towers.

Comment 10

Respectfully submitted,

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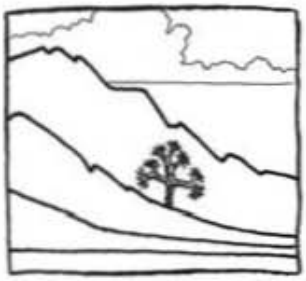
Donna Lamm
Executive Director, Amargosa Conservancy



Basin and Range Watch

July 21, 2012,

To: Mike Monosmith
Project Manager
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Dear Mike,

We would like to submit the following comments for the Preliminary Staff Assessment (PSA) for the California Energy Commission staff's independent analysis of the proposed Hidden Hills Solar Electric Generating System (HHSEGS). CEC-700-2012-003-PSA DOCKET NUMBER 11-AFC-02.

Basin and Range Watch is a group of volunteers who live in the deserts of Nevada and California, working to stop the destruction of our desert homeland. Industrial renewable energy companies are seeking to develop millions of acres of unspoiled habitat in our region. Our goal is to identify the problems of energy sprawl and find solutions that will preserve our natural ecosystems and open spaces.

Alternatives:

The PSA fails to analyze a full range of reasonable alternatives. Missing from the PSA are alternatives that would consider private lands outside of the area.

Comment 1

An off – site alternative should be considered in areas like the Central Valley of California or other disturbed or degraded lands.

Comment 2

The US Environmental Protection Agency has identified over 15 million acres of degraded lands or "brown-fields" in the United States that would be appropriate for large scale renewable energy development. http://www.sustainablebusiness.com/index.cfm/go/news.display/id/23646

While siting the project outside of the area may not be financially feasible for BrightSource, many exceptions have been made in both the NEPA and CEQA review process for their Ivanpah project to expedite construction. This favors the goals of the developer, but over-rides the concerns of those of us who oppose these projects.

Comment 3

The CEC fails to analyze the distributed generation alternative which is a win/win energy situation for all of us. The justification is for the convenience of BrightSource. The CEC reviewed the DG alternative for other projects including Ivanpah, Genesis and the now bankrupt but approved Imperial Project.

Comment 4

Distributed generation in the built environment should be given much more full analysis, as it is a completely viable alternative. This project will need just as much dispatchable baseload behind it, and also does not have storage. But environmental costs are negligible with distributed generation, compared with this project. Distributed generation cannot be "done overnight," but neither can large transmission lines across hundreds of miles from remote central station plants to load centers. Most importantly, distributed generation will not reduce the natural carbon-storing ability of healthy desert ecosystems, will not disturb biological soil crusts, and will not degrade and fragment habitats of protected, sensitive, and rare species.

Alternatives should be looked at that are in load centers, not closest to the project site. There is a need to consider the "macro" picture, the entire state, to look at maximum efficiency.

Comment 5

A master comprehensive plan should exist before large expensive inefficient solar plants are sited and built out in the wildlands. This plan should carefully analyze the recreational and biodiversity resources on public lands. A list of assumptions should be included detailing the plan for integrating various fuels mixes and technologies into each utility's plan, an overall state plan, and a national plan. Loads should be carefully analyzed to determine whether additional capacity is needed for peaking, intermediate, or baseload purposes. Unit size, which impacts capital and operating costs and unit capacity factors, has a direct bearing on the relative economics of one technology over another. A plan might recommend that smaller units built in cities and spaced in time offer a less risky solution than one large unit built immediately.

Comment 6

Right now there is no utility plan, no state plan, and no national plan. Large-scale central station energy projects have been sited very far from load centers out in remote deserts, with the only criterion being nearness to existing transmission lines and natural gas lines. Very little thought has been given to the richness of biological resources, the cumulative impacts on visual scenery to tourists, the proximity to ratepayers, or the level of disturbance of the site.

There will be a need to build many new efficient natural gas peaker or baseload plants to back up the renewable projects planned. Instead, the renewables should be distributed generation in load centers, which will provide much more efficiency, rather than inefficient remote central station plants that reduce biodiversity and require expensive transmission lines. This reduces the risk, as distributed generation is a known technology and has been proven in countries like Germany where incentive programs have been tested. Incentive programs can be designed in an intelligent manner to vastly increase distributed generation. Incentives for large remote projects are unproven to lower risk and may actually raise debt levels with runaway costs associated with poor sighting and higher-than-anticipated

Comment 7

operating and maintenance costs. Many renewable project developers have failed to consider reasonable or viable alternatives that could serve as solutions that everybody could live with. In the case of this particular project, conflicts with endangered species, cultural resources, storm water drainage erosion, viewscapes from National Parks and wilderness areas could all be avoided with a distributed generation alternative.

Comment 7

The CEC rejects a smaller project footprint alternative because "The applicant concludes that a smaller plant "would not feasibly accomplish most of the basic objectives of the project and would not avoid or substantially lessen one or more of the significant effects. Furthermore, a smaller plant may result in an inefficient use of the land by failing to fully realize the solar potential of the area."

Comment 8

It appears that the CEC rejected this alterative for the benefit of BrightSource. The people who oppose this project are not concerned with the problems of feasibility and solar potential for BrightSource. Alternatives that are not feasible for the applicant should still be considered. If the applicant cannot meet the objectives of these alternatives, it could be a justification for No Action or considering another application. Such alternatives could still be considered for potential future applicants.

Comment 9

Visual Resources: Even though the project would be built on private lands, the massive horizontal and vertical scale of the project will have three-dimensional cumulative visual resource impacts that could have damage view-sheds over 50 miles away. We agree with the statement on page 4-13-2: "Project impacts, in combination with existing and foreseeable future solar and other development projects within the greater Pahrump Valley, including both California and Nevada, would contribute to a perceived sense of industrialization of the open, undeveloped desert landscape and impact views of scenic resources in the Pahrump Valley viewshed, having the potential to be significant and unavoidable."

Comment 10

All of the viewsheds that could be potentially be impacted by HHSEGS should be viewed under BLM Class One VRM standards due to the immense size of the project foot print. Just about every acre of the project has the potential to impact the view from surrounding wilderness and residential areas. BLM VRM analysis are often insufficient to review projects spanning 3 to ten square miles.

The KOP Visual simulations are incomplete. There are not enough simulations representing upper bajada or mid-elevations from wilderness areas. There are not enough simulations from high elevations from BLM and Forest Service Wilderness Areas. There is no simulation of night lighting. There are no KOP simulations of flash-glare events. There are no KOP simulations of dust plumes that would occur from construction.

Comment 11

The below photo was taken looking towards the project site from Bonanza Peak, about 9,500 feet up in the Mt. Charleston Wilderness Area, in the Toiyabe National Forest, Nevada. Glare from the towers and the heliostats will be visible from this view. A KOP representing high elevations is needed.

Comment 12

Flash Glare from heliostats can occur from many different locations at different times of day at different times of year. It will be more likely to occur and be seen from mid -bajada to mountain top locations. We would like to see at least 4 KOP simulations of flash glare from different elevations around the project area.

Comment 13

The below photo is actual flash glare from the Nevada Solar One plant near Boulder City, Nevada. While this is a different technology, it still incorporated the reflective use of sun. Similar events can be expected from the HHSEGS Project.

Comment 14

Comment 15

More KOP simulations should be made of the Stump Spring Area of Critical Environmental Concern (ACEC). Because part of the conservation management objective for this ACEC is to maintain the historic quality of the area for the Old Spanish Trail, we believe the visual impacts will be particularly impossible to mitigate. Not only would the power towers and heliostat flash glare impact the ACEC, but the Valley

Comment 16

Electric Transmission Project will be sited right next to Stump Spring. Efforts to mitigate the visual impacts with planted trees will not be effective because the towers and the powerlines will be very tall. Planted trees will look unnatural and require too much water to maintain. It is not likely that they will all survive. Efforts to mitigate visual impacts by building interpretive signs and a visitor center will also be ineffective. Again, there is no way that these efforts can hide such large industrial visual intrusions. It is a value call by the agencies to determine that a visitor center would somehow offset a visual intrusion. It is not a value that makes sense to us.

Comment 17

Below is a view from Stump Spring looking towards the location of the proposed 550 KV Valley Electric Transmission Line. A KOP simulation of the transmission line should be provided from this view:

Comments 18a-18g

We believe the following Key Observation Points should be analyzed and added:

1. More from the 5,000 foot elevations from adjacent wilderness areas such as the Nopah Range Wilderness.
2. KOP simulations from higher elevations from the Spring Mountains National Recreation Area
3. Dark Sky and night lighting KOP simulations
4. More simulations from the Stump Spring Area of Critical Environmental Concern.
5. Multiple simulations depicting flash glare events from different locations.
6. Simulations of worst case scenario dust plumes during construction.
7. There should be one KOP depicting browning or dying vegetation at Stump Spring to simulate the worst case scenario of water draw down and how it may impact the spring. Water draw-down at Stump Spring can be considered a visual impact as well as an ecological impact.

Cultural Resources: We agree with the conclusions in the PSA that the Hidden Hills Project and the proposed Valley Electric Transmission Project will have adverse impacts to the Old Spanish Trail.

Dust from construction, noise from construction, flash glare events from the project, very bright receiver towers, and flashing night time aviation lights will all degrade the remote and historical feel of Stump Spring.

We agree with the following statement in the PSA: "While not all of the traces on the project site have been ground truthed, it is clear that the project site lies squarely among all of these tracks/traces and, therefore, within the OST-MR Northern Corridor, a regionally and nationally significant travel/trade

corridor that aided the exploration and shaped the development of the southwestern United States. Although not formally included in the Act, staff has concluded that these tracks/traces should also be considered part of the Old Spanish National Historic Trail. As such the Corridor is a historical resource for the purposes of the CA Environmental Quality Act and potential impacts resulting from the proposed project must be evaluated. The proposed project has the potential to significantly impact the OST-MR Northern Corridor by erasing traces/trails on site and visually impacting traces/tracks off site, which could jeopardize the integrity of the OST-MR segment in the Pahrump Valley." (quoted from pp. 70-71)

The CEC is recommending the following mitigation measures for damage to cultural landscapes:

"CUL-9 calls for the project owner to fund and contract for a study by OSTA of the OST-MR Northern Corridor. CUL-9 details steps that must be included in the study."

" CUL-10 calls for the project owner to construct and maintain an Interpretive Center, with parking, and interpretive panels highlighting the visual and cultural resources that will be adversely impacted by the HHSEGS project. Again, CUL-10 details steps and features that must be included in the interpretive center."

Comment 19

These are value judgments by the CEC. We do not think that funding a study will do much of anything to offset the intrusions to the experience that large power towers and transmission lines would have on the visitor to Stump Spring or the Old Spanish Trail in general. It's almost as if you are telling us that we would feel better looking at these intrusions knowing that BrightSource is funding a study. That is a far stretch for mitigation.

Even more ridiculous is the idea that a visitor center with a lot of parking spaces would somehow off set the impacts to the Old Spanish Trail. If anything, a new visitor center will add a modern looking component to the Old Spanish Trail and the presence of more big bulldozers and dust plumes is exactly what we are trying to avoid out there.

Comment 20

The impacts to the Old Spanish Trail and Stump Spring should be reason enough for the CEC to choose either the No Action Alternative or look at an alternative for a different location or a different technology.

Socio-Economics: Large energy projects like this tend create a boom and bust effect on small economies. In the case of the Hidden Hills Project, BrightSource is proposing to place intrusive industry right next to a small residential community and close to the communities of Sandy Valley and Pahrump. Initially, the economy would boom to a point during construction, but after construction, a limited amount of full time jobs would be created and any future potential for a housing community or increased tourism has been sacrificed for one company. Placing an unsightly industrial complex on the Old Spanish Trail Highway will tend to drive people away from places like Tecopa and the businesses there. The community of Pahrump originally was quite supportive of the Hidden Hills Project until they realized that BrightSource is more committed to employing Union workers from the State of California. Like their Ivanpah Project right next to the Nevada border, they are closer to a workforce in Nevada, but are having people travel a long way from California to satisfy the commitment to California unions. The state of Nevada gets a small economic benefit from all of this. Only about ten percent of the workers come from Nevada.

Comment 21

Inyo County, California has been concerned about having to flip the bill for emergency response to fires, medical, etc. and they do not have the resources to pay for all emergency services. These BrightSource projects have never been tested at the large scale they are being built. The Ivanpah Project has been reconfigured a few times. The site has been flash flooded and the company wants to change the design to burn more natural gas.

Comment 22

As residents and tax payers of Nye County just over the state line, we are concerned that our county will be financially burdened with dealing with any potential emergencies that come up for this project. We do not want to have to flip the bill for the consequences of a poorly planned and expedited review for this project. The CEC did not give the public nearly enough time to adequately review the 1,159 page PSA. We would like to once again ask the CEC to slow things down, give us another two to five years to review this project before you make a decision that we will all be sorry for. Please resist the temptation to "Over-Ride" all of the issues that cannot be mitigated. We are very concerned about the way the CEC gives very thorough review to these projects and as in the case of the Imperial Project (and several others), implemented "Over-Rides" to all of the issues they could not come up with mitigation solutions for. In the case of the Imperial Project, that was about 90 percent of the issues.

Comment 22a

Biological Resources:

The PSA does a thorough job of analyzing the impacts that the HHSEGS Project would have on biological resources. We would like to emphasize our concerns in the comments below:

The CEC has determined that the Stump Spring Area of Critical Environmental Concern could be in danger of water draw down from efforts by BrightSource to control dust, wash heliostats, and cooling turbines. Stump Spring has already been impacted by water over-draft in the basin. Water draw down has impacted the spring to the point where surface water is now only confined to 3 seasonal pools, but there is still an abundance of riparian habitat that supports much of the wildlife in the region. The potential removal of this spring could have unrivaled consequences to the biological diversity in the region.

The close proximity of the HHSEGS Project to Stump Spring makes the region's wildlife particularly susceptible to the solar flux treat. Stump Spring provides a very important habitat for the region's avian fauna.

Mesquite is abundant and provides ample wildlife habitat. The PSA states that the mesquite in the area predate the sand dunes. Because it is difficult for mesquite seeds to germinate in sand, Stump Springs may be a unique, relic population of mesquite which would make it even more vulnerable to water draw down.

Comment 23

Stump Spring will likely see impacts from invasive weeds that will spread as a result of the industrial removal of 3,300 acres of habitat.

Avian Fauna: The PSA provides a list of bird species that were observed during the surveys. The PSA also provides a list of rare and sensitive birds that may occur at the spring.

Comment 24

We would like to add these photos of a juvenile Swainson's hawk (*Buteo swainsoni*) that we observed at the spring in June of 2012. The Swainson's hawk is a California Department of Fish and Game Threatened Species and a Species of Special Concern with the Fish and Wildlife Service.

Comment 25

Comment 26

Solar Flux: The solar flux issue is documented from the old Daggett Power Tower (now taken down). The issue of avian fauna getting injured or burned to death from power tower solar flux is not close to being resolved. This is primarily because the largest power tower in operation is in Spain and is not much taller than 150 feet. The only official study that we are aware of is the paper AVIAN MORTALITY AT A SOLAR ENERGY POWER PLANT, by Michael D. McCrary, Robert L. McKernan, Raplh W. Schreiber, William D. Wagner, and Terry C. Sciarrotta, Journal of Field Ornithology, 57(2): 135-141, found that Solar 1 during 40 weeks of study, caused 70 bird fatalities involving 26 species, most from collisions with both heliostats and tower, but thirteen (19%) birds (of 7 species) **died from burning in the standby point**. Heavily singed flight and contour feathers indicated that the birds burned to death. Six (46%) of these

fatalities involved aerial foragers (swifts and swallows) which are apparently more susceptible to this form of mortality because of their feeding behavior.

Comment 27

Other than a study being conducted for the 100 foot BrightSource power tower in Israel, there is very little data out there other than the fact that we expect this to be a big problem with avian mortality. The solar flux issue came up in extended debate during the Ivanpah Solar Electric Generating System proceedings. At the time (and this still stands because Ivanpah has not been activated yet), there was no resolution for the solar flux issue in Ivanpah Valley. Even though Clark Mountain is a sky island and is known to have a series of rare birds that migrate and utilize the white fir forest close to the summit, the project was approved with no adequate mitigation to prevent solar flux from killing the birds. The HHSEGS project may have an identical issue with birds using the relic white fir forest located on Kingston Peak within view of the HHSEGS project. Many may be the same birds that use the Clark Mountain Sky Island.

Comment 28

The PSA also fails to analyze the full impacts that flux could have on many individual species. The burrowing owl does not glide, but can fly to very high elevations. While it is more likely for a turkey vulture or a golden eagle to be injured or killed by flux, species like the burrowing owl are still at risk.

The Altamont Pass Wind Farm is estimated to kill 100 burrowing owls *(Athene cunicularia hypugaea*) per year. Of course, a wind turbine and a solar receiver tower with heliostats are two different things, but many feel that solar flux may be more dangerous to birds than wind turbines.

Comment 29

We would like to request a study on which birds would and could be impacted by flux. The PSA should list flux as a risk to the burrowing owl.

Here is the link for the Altamont Pass wind farm burrowing owl kill numbers:
https://www.biologicaldiversity.org/campaigns/protecting_birds_of_prey_at_altamont_pass/pdfs/Burrowing_Owl_Fatalities_APWRA.pdf

The three towers at Ivanpah are 450 feet tall and nobody has any clue as to how many birds will be killed by flux. The HHSEGS Project towers will be over 700 feet tall and it appears that the agencies are ready to approve this before they even know the scope of risk that would be caused by flux.

Comment 30

We would like to request that the solar flux issue be studied in Ivanpah Valley after the BrightSource plant is activated. This study should go on for 3 years before approval of the HHSEGS Project is even considered. You simply do not have enough data and information to convince us that the HHSGS Project will not cause a permanent reduction of the avian fauna in the region.

Golden Eagle *(Aquila chrysaetos)*:

Comment 31

The HHSEGS Project will remove 3,200 acres of foraging habitat for golden eagles and eagles stand a good chance of getting killed by the solar flux problem. The project area has been known as a golden eagle hot spot for some time now. Surveys uncovered 19 golden eagle nests within ten miles of the project site. As it stands now, Take permits are very difficult to issue under the Bald and Golden Eagle Protection Act. Attempts to issue the first Take permit for eagles for the West Butte Wind Farm in Oregon are currently under litigation.

At this point, we see no ideas for mitigating or preventing golden eagle kills with the solar flux issue.

Comment 32

Desert Bighorn Sheep *(Ovis canadensis nelsoni):*

Part of a carcass of a bighorn sheep was found on the project site years ago; Bighorn sheep do not "accidentally" use habitat, sheep have reasons for occupying an area and the Hidden Hills project site may be connectivity habitat between the Spring Range, the Kingston Range, and the Nopah Range. This occurrence should not be looked at as an anomaly, but as part of the normal range of the bighorn sheep here. These metapopulations need to maintain connectivity for genetic health, and landscape-level obstacles and barriers will hinder movement across valleys and alluvial valley sides. No mitigation can replace this function of habitat and regional geographic movement corridors. Some lower areas, fans, and valley floors are only used on rainy years when vegetation provides forage, making these habitats even more important to protect. Wherever an animal is found is its habitat.

The goal of conservation biology is not to protect individual animals, but to protect populations in a landscape, as well as the ecological processes that occur at the landscape level. This must include all habitat areas including those with irregular use such as valley floors.

Comment 33

In order to understand and possibly be able to mitigate bighorn movement corridors in the area that may be impacted by the project, a study and monitoring plan should be undertaken. This plan should seek to understand population connectivity in this landscape, and could use such methods as least-cost modeling of dispersal costs for each habitat type in Pahrump Valley and surrounding mountain ranges, and dispersal paths between metapopulations based on genetic studies and expert opinions. The plan should include a GIS map of migration rates for bighorn sheep and connectivity models. After this modeling has been completed and a reasonable hypothesis of gene flow predicted for the area, a conservation strategy can then be developed for the bighorn in the local area (see Optimizing dispersal and corridor models using landscape genetics. 2007. Epps, C. W., Wehausen, J. D., Bleich, V. C., Torres, S. G. and Brashares, J. S. Journal of Applied Ecology 44: 714–724).

Kit fox (*Vulpes macrotis)* and American badger (Taxidea taxus):

Comment 34

Because of the growing outbreak of canine distemper in Desert kit foxes along the I-10 corridor in Riverside County, possibly associated with passive relocation and hazing of the kit foxes from their home territories on large-scale solar project construction areas and associated transmission lines, we request the applicant be responsible for a Regional Kit Fox Monitoring Plan in the Pahrump Valley. There is a possibility the disease could spread to Inyo County, or a new outbreak occur, and monitoring must be undertaken to ensure the Desert kit fox does not decline in population.

Because of the potential declines observed over much of the range of the kit fox (see Meaney et al. 2006) the kit fox should be treated as a potential sensitive species or species of special concern. It is a fully protected fur-bearing mammal in California Department of Fish and Game code.

Comment 35

The applicant should be required to test for canine distemper in kit foxes impacted directly and indirectly by the project. Fenced areas should be monitored for any kit foxes climbing back into active construction areas. Surveys should be undertaken to count how many kit foxes are in the area and ten-mile buffer zone around the project, to set a baseline for an ongoing monitoring program. Fencing to exclude kit foxes should be described. Hazing techniques should be explained in full detail for public review. A plan to address any distemper outbreak should be formulated. A plan for contacting California Department of Fish and Game and a veterinarian should be in place. A monitoring plan should be ongoing for five years after construction.

The American badger should also be included in a monitoring plan, in addition to kit fox.

Reference:

Meaney, C.A., M. Reed-Eckert, and G.P. Beauvais. (2006, August 21). Kit Fox (*Vulpes macrotis*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: http://www.fs.fed.us/r2/projects/scp/assessments/kitfox.pdf [date of access].

Desert Tortoise: *(Gopherus agassizii)*

Comment 36

We request that mitigation ratios for shadscale scrub habitat on the project site be mitigated at a 3:1 ratio when purchasing compensatory habitat, similar to the ratio proposed for Mojave Desert creosote scrub. Although sometimes thought of as "lower quality" habitat, the shadscale scrub we examined near the project site appeared to be very good Desert tortoise habitat, with many active tortoise burrows among the shadscale. Basing habitat occupancy estimates by merely looking at maps or models should not replace on-the-ground surveys for sign and animals. We believe the shadscale scrub habitat in this area is high quality tortoise habitat and should be mitigated at a higher ratio than 1:1.

Below is a photo of an active desert tortoise burrow that we found in shadscale scrub habitat adjacent to the site:

Comment 37

Tortoise Relocation: At the workshop in Bishop, California, BrightSource stated that they wanted to move the tortoises to a small strip of land near the Nevada border. They would put them on the California side in order to avoid regulations that prohibit moving tortoises from state to state. BrightSource is going to request that state agencies change the rules for this project. We understand that BrightSource feels that this is the best habitat to move the tortoise to, but we also feel that state regulations can be useful tools in conservation. We are concerned that any changes to state law would set a precedent and overall weaken conservation laws. We are worried that these rule changes could be used for other big utility scale solar and wind projects.

The HHSEGS Project will cut off and remove 3,200 acres of desert tortoise habitat. The massive footprint will not only destroy habitat, but also block connectivity corridors. According to the PSA, as many as 33 adults, 34 juveniles and 158 eggs could be on the site. This indicates a healthy, functioning population.

Complications from relocation could lead to respiratory disease outbreaks and predation. BrightSource has already removed and compromised a good functioning desert tortoise population in Ivanpah Valley. The CEC should think twice before permitting removal of yet another 3,200 acres of habitat.

Rare Plants:

Below is the list of rare plants we have that could occur on the site and in the area. Some are in the PSA, some are not:

Aliciella humillima (medium – soon to be listed by CNPS)

Aliciella triodon (medium)

Arctomecon merriamii (medium)

Asclepias nytaginifolia (low)

Astragalus geyeri var. *geyeri* (low)

Astragalus mohavensis var. *hemigyrus* (low)

Astragalus nyensis (low)

Astragalus preussii var. *preussii* (likely)

Astragalus sabulonum (known)

Astragalus tidestromii (high)

Atriplex longitrichoma (high)

Bouteloua trifida (low)

Camissonia boothii ssp *alyssoides* (low)

Camissonia boothii ssp *boothii* (low)

Chaetadelpha wheeleri (low)

Chamaesyce parryi (medium)

Cryptantha costata (medium)

Cryptantha insolita (low)

Coryphantha chlorantha (low)

Cordylanthus parviflorus (medium)

Cymopterus gilmanii (medium)

Cymopterus multinervatus (low)

Enceliopsis covillei (low)

Enceliopsis nudicaulis var. *corrugata* (low)

Eriogonum bifurcatum (high)

Eriogonum contiguum (medium)

Eriogonum hoffmannii var. *robustius* (low but habitat present)

Gilmania luteola (low)

Iva acerosa (low)

Loeseliastrum depressum (low)

Mentzelia leucophylla (low but habitat present)

Mentzelia polita (medium)

Mortonia utahensis (low)

Oenothera cavernae (low)

Pediomelum castoreum (medium)

Penstemon bicolor ssp. *bicolor* (low)

Penstemon bicolor ssp. *roseus* (low)

Penstemon fruticiformis ssp. *amargosae* (low)

Penstemon stephensii (low)

Penstemon utahensis (low)

Perityle intricata (low)

Petalonyx thurberi ssp. *gilmanii* (low)

Phacelia coerulea (low but habitat present)

Phacelia filiae (low)

Phacelia parishii (medium)

Phacelia pulchella var. *gooddingii* (known)

Physalis lobata (medium)

Polygala heterorhyncha (low)

Sclerocactus johnstonii (medium)

Sibara deserti (low)

Sphaeralcea rusbyi var. *eremicola* (high)

Stipa arida (low)

Tripterocalyx micranthus (low)

Water:

Stump Springs to the east of the project is a valuable resource, and the wells of local residents in Charleston Heights are also an issue that need protection. Groundwater declines from project pumping should be limited to close to zero at the springs. The applicant did a well pump test at the request of the California Energy Commission to learn more about the aquifer in the area, but the interpretations of the data were widely divergent between the applicant and the Energy Commission hydrologists.

There was disagreement about the characterization of the groundwater basin at a June 14, 2012 workshop in Pahrump. The CEC hydrologist said the data fit a fully confined aquifer characterization better. They believed drawdown could reach Stump Springs at 30 years, and could even be several feet of lowering. There is still enough uncertainty. As for leakance, the hydrologist said not enough data was collected for a long period, there could be temporary leakance. The recharge must be looked at not locally but for the whole aquifer, and all evidence indicated the Pahrump Valley aquifer was not recharging.

Storage is extremely low other tests showed. There may be confining units such as clay beds at Stump Springs, that a drawdown could impact. The Energy Commission hydrologist said the applicant needed to reach out much farther in their analysis, and we agree. A gradient in a confined system is not a source of recharge.

Comment 38

CEC wanted the applicant to have 3 monitoring wells outside the project in a line with the proposed project wells, all at 1,000 feet deep, and we recommend this as well. Two upstream from the project and one downstream. Triggers should be required as new mitigation, such as sending out biologists to monitor how the deep-rooted mesquite at Stump Spring react, and if they appear to be adversely affected. CEC said if they see a half-foot drop in water at the project boundary, then the assumption could be made that pumping might be affecting Stump Spring.

We agree with the CEC that groundwater pumping by the project would need mitigation. Mitigation Measures Water Supply 1, 6, 7, and 8 to offset impacts to overdraft in the basin and potential impacts to

Comment 39

local well owners and nearby springs are needed. We also recommend, in contrast with CEC, that there might be potential impacts to the Amargosa River drainage from unstudied connections with the Pahrump Valley aquifer; mitigation measures should be enacted.

Comment 40

A Water Supply Plan showing how the applicant will replace 163 AFY per year as a condition of certification in Water Supply-1 should be completed before approval and certification of the project so that the public can review this important plan. How do we know there are even enough private wells and water rights to purchase and retire?

Comment 41

Similarly, a Groundwater Level Monitoring, Mitigation, and Reporting Plan (Water Supply-6) should be prepared now, before certification, so that the public -- and especially local residents -- can review the plan. There is a lot of deferred mitigation in this review. If project pumping lowers residents' well levels by 1.5 feet then the applicant should reimburse the well owners. We believe ten feet lowering is too much and damage may already be done to resident's ability to have a reliable water supply.

Comment 42

Saying that the applicant will simply reimburse local well owners if their well goes dry to dig a deeper well, is not acceptable. There may come a point when no depth can be reached to water, so extreme is overdraft. The project should be not be approved if this is a possibility.

The Amargosa Conservancy pointed out that their pump tests in cooperation with US Geological Survey in the Amargosa Valley showed surprising results. Some areas that were supposed to have water did not. Past Yucca Mountain Nuclear Repository testing, which was very extensive in Amargosa Valley, showed a complex picture of drilling hitting carbonate rocks at 200 feet and in other areas 2,000 feet -- there are buried mountain ranges under the valley sediments, it is not just a big fill basin. The Conservancy said the applicant's pump test was inadequate. They want more monitoring wells farther out, towards California where unknown and potential connections with Amargosa Valley could be present. We support this recommendation, as more needs to be studied about the complex hydrology of the region before more drawdown is allowed. A regional groundwater map should be made, and more well testing should be undertaken before approval of this project.

Comment 43

Impacts to Local Communities:

We see this all of the time. A big energy developer (usually subsidized) comes to a small community, promises everyone a job and offers to buy the town something like a community center. The projects are usually built right next to people's homes (as in the case of Charleston View). Most of the people have trouble selling their property and do not have the resources or finances to move. Their quality of life goes downhill while the developer makes money and usually does not share that with anybody. It is a dead end for these people.

Comment 44

The Cumulative Scenario:

On the one hand, BrightSource promises the most minimum impacts from the HHSEGS Project. On the other hand, BrightSource has publically stated that they would like to build up to three more of these massive projects in the same region! That would multiply their water use for HHSGS by 4. It would multiply their removal of habitat for biological resources by 4. All of the people living in the area would be forced to look at these developments from many different perspectives. Any attempts to turn the whole area into a solar energy farm will likely be met with bitter opposition. It is quite unfortunate that

politicians and energy developers like BrightSource have chosen the most environmentally unfriendly way to use solar energy. Please visit the following link for the right way: www.solardoneright.org.

Conclusion: The CEC should not permit the HHSGS Project to go forward. There are simply too many impacts that cannot be mitigated. At the very least, the CEC should delay approval of this project for at least another 5 years so more studies can be conducted concerning hydrologic, biological, cultural, visual and socioeconomic resources can be better evaluated. It does not work to "approve now, mitigate later'. The agencies tried that and it has failed miserably.

Comment 45

Thank you,

Kevin Emmerich
Laura Cunningham
Basin and Range Watch
P.O. Box 70
Beatty, NV 89003

Hidden Hills Solar Electric Generating System, 11-AFC-2

Preliminary Staff Assessment

General Comments

by: the Pahrump Paiute Tribe

In the history told by the dominant culture in the United States, Europeans "discovered" a vast, unexplored continent unknown to any before them and "claimed" it in the name of their countries. They went on to "civilize" the land and the ignorant peoples they encountered, eventually creating a venerable democratic government that provided for "freedom" in religion, speech, and other personal rights. They created a military to protect the civilized people from invaders, and now, as in most governmental systems, people are taught to honor and revere both the government and the military.

In Native history, in the reality that is *our* past and *our* present, Europeans were the invaders. They took over lands that were already occupied by established functioning governments. They blatantly stole land that was already tended by peoples who co-existed with the land. The Europeans eventually killed between 80 to 95 percent of the Native peoples on the continent, primarily from intentionally introduced diseases to which the Native Americans had no resistance. With the goal of either eliminating or suppressing resistance achieved, the Europeans then began possessing, bargaining with, and using the land for monetary gain rather than sustenance and survival. The European advance into what is now the United States stripped away virtually all rights of the Native Americans, and continued to do so throughout history through broken treaties and empty promises. And now, as American citizens, we are expected to proudly honor and revere both the dominant government and military installations.

The problem with this expectation is that the dominant culture and the government associated with the dominant culture have never stopped in their attempts to "civilize" the Native Americans. They have never stopped stripping away the rights of peoples who have a government and a culture and a lifestyle that is different from theirs. They have never stopped believing that their claims to the land override the responsibility that the Creator gave Native Americans to watch over the land and all that is in it, and that their plans and uses for the land override our historical and current use of the land. This has been proven to our tribe time and again as the town of Pahrump and the surrounding areas have been settled and have grown far past the point of balance with nature. Large areas of our ancestral lands have been taken over, physical evidence of our history has been stolen and placed in facilities for the dominant culture to enjoy, our tribal encampments have been stolen, our tribal members have been forcibly removed from their homes, and our burial grounds have been taken over by those who moved here and have since been turned into an all-purpose graveyard.

The dominant government has put into place a number of legal "safeguards" that are supposed to provide for the protection of Native artifacts and other objects or areas of spiritual or religious

significance. In most cases, however, these safeguards are interpreted based solely on physical manifestations of Native American presence, such as artifacts or burials. The fact that the religious and spiritual existence of the Native Americans is both intertwined and inseparable from the land and its resources is largely ignored by the dominant culture in favor of personal wishes and monetary pursuits. The language used in the Cultural Resources Policy of Inyo County's General Plan is evidence of this: "Preserve and protect key resources that have contributed to the social…history and prehistory of the area, *unless overriding circumstances are warranted*."

Our tribe is once again in a position in which perceived "overriding circumstances" may be a factor. The California Energy Commission will have before them a decision whereby they determine whether the greater good achieved by a solar facility is more important than the spiritual and natural relevance of Pahrump Paiute ancestral territory. We disagree with the concept that this "greater good" is more important. First, it is not the responsibility of the Pahrump Paiute to shoulder the burden of those that moved into our territory and did not pay attention to the teachings about resource management that are automatically embedded in Native life. Instead, they have chosen to overpopulate, requiring more food, more oil, more land, more energy – more, more, more. The solution to this need for more resources is simple: control the growth of the population enough so that the available resources become sufficient. Second, if the need for energy were the sole factor driving the potential construction of this facility, other alternatives could be devised whereby current urban development could be utilized. It is not solely the need for energy driving the project, however; it is primarily the desire for profit. Thus, other alternatives are counterproductive. So, as illustrated before, the approval of this project would simply become one more way in which tribal ancestral lands have been acquired and developed in the name of the dollar.

Obviously, we support the denial of the project. We concur with the finding on page 61 of the PSA that there is no action that would "directly avoid or substantially minimize the significant effects that the proposed project would have on the three ethnographic landscapes and associated Native American practices." Since we are ultimately not the deciding vote, however, our tribe has reviewed the proposed compensatory mitigation in the event that the project is approved. Specific comments regarding PSA mitigations will follow in a separate document.

Hidden Hills Solar Electric Generating System, 11-AFC-2

Preliminary Staff Assessment

Specific Comments

by: the Pahrump Paiute Tribe

1) CUL-10 to CUL-12: The applicant would like to place a solar plant on over 3,000 acres of Pahrump Paiute ancestral land, which would cause significant impacts to the visual landscape, the wildlife in the area, nearby Native American cultural sites that would likely be disturbed or destroyed through cumulative-impact population growth, and the area's water and water-related biology. This land falls within the path of the Salt Song, a religious trail the deceased of the Southern Paiute (including the Pahrump Paiute) follow to the afterlife. If this path is broken, the spirits of our deceased may not make it to the appropriate place in the afterlife. In exchange for negatively impacting all of the above, the PSA proposes that appropriate compensatory mitigation would be a few panels at an Interpretive Center addressing Native American history and land use, research of an area of historical tribal land use, and restoration of the project site in the event of closure. While our tribe feels these mitigations are proposed in good faith, we do not feel their level of compensation is commensurate with the level of impact this project will have. We ask that Staff consider some of the further comments below.

Comment 1

Comment 2

Comment 3

2) Our tribe has made, and is making, our best effort to engage in effective communication with CEC, the lead agency for the project. CEC Staff have made themselves readily available to us in order to assist us in navigating the path to the FSA. However, the reality of our tribe is that we do not have a staff. The majority of us have day jobs that do not allow us to contribute the amount of time necessary to thoroughly and successfully address all the aspects this project encompasses. If this project is approved, the mitigations will take on lives of its own. CEC Staff will move on to new projects and cannot be expected to have the resources to continue helping us on the many points with which we will need assistance. We do not have the knowledge to navigate this process alone, and we do not have the financial resources necessary to hire someone who does know how to navigate the process. The applicant, on the other hand, has ample legal representation. Since we would not otherwise have had need for legal services, we find it appropriate that the applicant pay for a lawyer of our choosing to represent and advise the Pahrump Paiute in all dealings that relate to this project and the mitigations associated with this project for the life of the project so that we are able to meet the applicant on equal ground.

Comment 4

3) Salt Song Landscape pgs. 57-59: We agree with the information on page 59 written under this section regarding the inability to substitute or replace the Salt Song Landscape and the inability to modify the process by which we deliver our deceased to the afterlife. We are also, along with CEC Staff, unaware of means by which one could reduce the impact of building in this area to a

less than significant level or even a means by which our tribe, and all the other Southern Paiute whose deceased would be affected by the project, could be compensated. On this basis, we continue to advocate for denial of the project.

Comment 5

4) In the event the project is approved, based on cumulative impacts to the three landscapes identified in the PSA (pg 53), we would like to propose that lands, identified in conjunction with the Pahrump Paiute tribe, including, but not limited to, lands having religious, cultural, or spiritual value, and of equal size to the project, be acquired for the Tribe, in perpetuity, as we anticipate this project will be profitable and will extend past the original lease. We propose this on the basis that over 3,000 acres of tribal ancestral land and all associated uses are being eliminated, and on the basis that our rights to watch over and protect the land as the Creator tasked us to do are being violated by the construction of this project. We wish to fulfill our promise to the Creator, and if we fail in this endeavor by being forced to accept the approval of this project, we feel it is appropriate compensation to exchange land that we were not able to watch over for land that we are able to protect by putting it into our hands.

Comment 6

5) CUL-10: We have not had the opportunity to review mitigations in other portions of the PSA outside of the Cultural Resources section (see #2 above). As such, we are unaware if this request conflicts with VIS Conditions of Certification. However, if it does not, we would like to request that "Interpretive Center" be adjusted to read "Interpretive Building," or otherwise incorporate the word "building" into the Condition of Certification. As the Condition reads now, it seems as though the Condition could be fulfilled by panels on a stake. In the event of the project's approval, our tribe feels that wayside information panels would not be an appropriate exchange for the loss of land, habitat, gathering grounds, and educational opportunities caused by the project's existence. We also wish to request that the Condition include "interpretive panels and exhibits" in its language. An appropriate educational facility, for Natives and non-Natives alike, will include interactive exhibits. In addition, if the presence of a federal curator would qualify the interpretive facility to curate artifacts according to federal requirements, our tribe would like to request that a federal curator be employed at the interpretive facility for the life of the facility.

6) Verifications of some conditions of certification require the applicant to notify particular parties of interest when the verification has been completed (for example, CUL-10). When the PSA references the location of the proposed Interpretive Center, the verifications require notification of Inyo County. We believe it is preliminary to assume the Interpretive Center will be located in Inyo County and still be able to fulfill all conditions of certification. We request this language be replaced with "the county of locale" or equivalent.

7) CUL-10, Verification 2: We request that Native American tribal representatives be added (as in Verification 1) to the list of those who shall be notified that the site is ready for inspection.

Comment 7

8) Though we have not had the time and resources to read through the conditions of certification for biology or water (see #2 above), we wish to reiterate that the appropriation and development of tribal ancestral lands has occurred repeatedly throughout history. A direct effect of development is the relocation of wildlife from their native territory. When the next development occurs, the wildlife is moved again – then again – then again. This has occurred repeatedly over the course of development in the Pahrump Valley. Animals do not always adjust to new territory and sometimes die. Animals die in the process of development. Another effect to development is water usage, as illustrated by the lack of springs that once existed in the Pahrump Valley. When you eventually consider the cumulative impacts of past, present, and proposed development, the impact is significant. The plants, wildlife, and water are highly important to our culture and our tribe would like to be involved in management plans or mitigations regarding plants, wildlife, and water.

Comment 8

Comment 9

9) CUL-6, Paragraph 3: We would like to be part of the decision regarding who serves as Native American monitors. While we currently receive preference as a monitor as the only Native Americans with traditional ties to the area, if no or too few Pahrump Paiute are qualified or available to serve as monitors, we would like input as to what tribe then has preference.

Comment 10

PAHRUMP PAIUTE TRIBE

Mr. Mike Monasmith, Project Manager
State of California
California Energy Commission
1516 Ninth Street,
Sacramento, CA

RE: Preliminary Staff Assessment for the
Proposed Hidden Hills Solar Electric Generating System Project

Dear Mr. Monasmith:

In addition to the multiple comments expressed you have received about Preliminary Staff Assessment (PSA) for the Hidden Hills Solar Electric Generating System (HHSEGS) at the June 27, 2012 in Bishop, CA, I am writing to amplify our concerns relating to specific items contained within and/or omitted from the PSA. While my focus in on the PSA, you will note that I refer to certain elements indentified in the ethnographic study, as a foundation.

As you have heard and we have shared during multiple public workshops and other forums, the Pahrump Paiute Tribe is concerned with the PSAs failure to discuss and/or consider certain items, which we believe are critical in the CEC's deliberations.

Based upon our review of the PSA, the document does not appear to thoroughly evaluate many of the cultural concerns we consider essential for the perpetuation of our culture. One contributing factor at the forefront of these concerns is the manner in which the ethnographic information was collected through an approved informed consent process. This agreed upon process provides for the reassurance that culturally sensitive information would be protected and kept confidential. We fully support the opportunity to redact culturally sensitive prior to posting on the CEC web site for the public to gain a glimpse into our culture and concerns.

Comment 1

Secondly, the PSA fails to address American Indian Environmental Justice issues relating to the citing of the proposed project within our traditional homelands and within culturally sensitive areas. The traditional stories of the Southern Paiutes passed down for generations, describes our place of creation or origin, which emanates from the Spring Mountains. The Pahrump Valley is considered our traditional holy lands and is known to possess the greatest of spiritual and physical resources within our cultural landscape. Traditional ceremonies that are conducted occur in the southern portion of the Pahrump Valley and incorporate the Hidden Hills area. According to tradition, these ceremonies must be done with the intention of spiritually assisting Southern Paiutes throughout Southern Nevada, Utah, Northern Arizona and Southern California. These culturally and linguistically

connected groups share these same perspectives and rely on our important resources for our mutual cultural survival. Violations to this holy land will be perpetuated by the impact from the proposed HHSEGS to the Southern Paiute cultural landscape and most directly in holy lands specifically the proposed Project Area of Analysis (PAA).

The Hidden Hills area is central to the lives of our people and is near our Creation place in the Spring Mountains. The Pahrump Paiute considers the disregard for our holy lands as constituting both Environmental Justice and equity violations. No other people have had their holy lands impacted by these types of projects causing perceived environmental and/or cultural pollution or damage. There is no question that Southern Paiutes from Nevada, Utah, Arizona and California will continue to lose cultural traditions attributed to the siting of this inappropriate project. Accordingly, the HHSEGS will forever alter and obstruct the visual, auditory and spiritual connection to the resources integral to important cultural ceremonies essential to our existence.

Comment 2

Comment 3

It is our contention the denial of access where certain ceremonies occurred resulting to from this project, notwithstanding the collection of traditional use plants and animals needed for our cultural survival is not thoroughly understood nor conveyed in the PSA. These particular issues are deep-rooted and steeped in our rich cultural traditions that are an integral part of proprietary songs and ceremonies. It is our position that if consideration is given to releasing vetted ethnographic information, a broader understanding about the complex issues relating to our cultural traditions will be better understood.

Comment 4

The lives and health of the Pahrump Paiutes who have occupied this area since our creation have been seriously threatened by the continuous expansion of projects that adversely impact our culture. This threat is not limited to Indian people who live in the immediate vicinity to the HHSEGS and use its resources on a regular basis, but extends to other Southern Paiutes who share resources that have been collecting and using area in or near the proposed PAA. As such, Southern Paiutes fear the continuous invisible peril of auditory, visual, cultural and spiritual contamination of our resources and its cumulative effects on future generations of Indian people. We continue to experience health effects from other energy projects and encounter the perceived risks from impacts to cultural resources needed for survival.

Comment 5

One of the most detrimental consequences of the HHSEGS for the survival of American Indian culture, religion, and society has been the denial of access to their traditional lands and resources. Losses of access to traditional foodstuffs medicine and other important resources have greatly contributed to the undermining the cultural well being of Indian people. Our people will continue to experience breakdowns in the process of cultural transmission due to the lack of access to the Hidden Hills area and the resources within. Although mitigative measures may be suggested by the project proponent and considered by the CEC, allowing our access to the area with impacts derived from the proposed land disturbance, as being with irreparable contamination compounded by the disturbance of the soil and

Comment 6

Comment 6, cont'd

underground water that ultimately renders these locations unusable. Any impacts to the hydrology and other important resources associated with the HHSEGS will elevate the risks of us maintaining cultural and ecological balance within and adjacent to the proposed Project Area and most importantly, to our cultural landscape.

It is well known among our people that within the PAA are an inordinate amount of cultural and archaeological resources that are more than merely remnants of the past. These resources are still used by our people and needed for our cultural survival. Any impact to these resources must be thoroughly and systematically evaluated and protected for future generations. As such, the area within or surrounding the proposed project should be designated as an Archaeological Landscape.

Comment 7

Further, the CEC must identify efforts to insure cultural conservation easements to include threatened and endangered plant and animal species are designated for the proper management by Southern Paiutes. Our people are tied to the land and resources. When speaking at the June 27th meeting, I provided a short overview of our epistemology relating to the Desert Tortoise. This important "relative" is highly revered and is known to bring good luck, protection to the people environment and the area, it brings one good luck and most importantly, allows one to live a long life. These attributes must not be forgotten and can disrupt the natural balance of the area. The Bighorn Sheep that are known to exist in the area is considered our teacher who brings our songs, stories and knowledge that is vitally needed. Clearly, the approach of keeping these animals and preserving the areas where they were traditionally placed will insure proper protection of the area and the continuity of our culture.

Comment 8

Lastly, as you are aware, the HHSEGS is being proposed near the St. Therese Mission now currently under construction. It is important to note, the Pahrump Paiute Tribe does not have any affiliation with this undertaking or plans to become aligned with this particular income generating private venture. Any consideration by the project proponent to suggest or the CEC to consider an agreement to incorporate the Pahrump Paiute Tribe in a shared mitigation strategy is highly inappropriate and considered culturally unacceptable.

Comment 9

Sincerely,

Richard W. Arnold

Richard W. Arnold, Traditional Practitioner, and
Tribal Chairman
Pahrump Paiute Tribe

cc: Thomas Gates

BIG PINE PAIUTE TRIBE OF THE OWENS VALLEY

Big Pine Paiute Indian Reservation

July 23, 2012

Mike Monasmith,
Senior Project Manager
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1516 Ninth Street
Sacramento, CA 95814-5512
email: mike.monasmith@energy.ca.gov

RE: Comments on the Preliminary Staff Assessment and Supplemental Staff Assessment of the BrightSource Hidden Hills Solar Energy Generating System

Dear Mr. Monasmith:

The following comments address the Preliminary Staff Assessment and Supplemental Staff Assessment of the BrightSource Hidden Hills Solar Energy Generating System.

The Big Pine Paiute Tribe of the Owens Valley (Tribe) recommends the "No Project" Alternative for the project. This area of southeastern Inyo County is not appropriate for industrial-scale solar development which would produce significant impacts on cultural, historical, biological, and visual resources which can't be mitigated to a less than significant level. The 500 megawatt power plant would have approximately 85,000 elevated mirrors which would be used to focus the sun's rays on a solar receiver steam generator that would produce steam to generate electricity. There would be two solar receiver steam generators on 740 ft. towers.

Cultural Resources—Cultural Landscapes Adversely Effected

The Supplemental Staff Assessment provides an excellent description of three cultural landscapes which would be adversely effected by the project: Salt Song Landscape, Pahrump Paiute Home Landscape, and the Mo hav Landscape. The Tribe supports the Pahrump Paiute Tribe's opposition to the project and the staff report's assessment of the project's significant impacts to cultural resources which can't be mitigated:

"The construction of the proposed project would cause a substantial adverse change in the significance of the three ethnographic landscapes. The presence of the heliostat fields and the 750 foot tall solar power towers would be a stark visual intrusion that would profoundly and irreparably degrade the ability of the landscapes to convey historical significance under CRHR

Criterion 1. In particular, the mass of the looming towers, in combination with the operational glare from the solar receiver steam generators atop each one, would compromise the setting, feeling, and association aspects of the resource integrity, aspects critical to the resource's ability to convey its associative values under Criterion 1. Subsequent to the construction of the facility, one would no longer be able to experience the sense of the landscape as it was during its period of significance" (p. 56).

Historic Resources—Old Spanish Trail/Mormon Road Adversely Effected

The Supplemental Staff Assessment states: "At least one historical built-environment resource, the Old Spanish Trail-Mormon Road, has been identified in the HHSEGS PAA thus far. Substantial information, including the National Register of Historic Places nomination of the Nevada segments of the Old Spanish Trail, has led staff to conclude that, within the PAA, this resource is not represented by a single route, but as a corridor of converging and intermingled tracks and trails. The project site is located within this corridor, with traces running throughout the project site. Staff has concluded that that the impacts of the proposed HHSGS project to this Old Spanish Trail-Mormon Road Northern Corridor (Corridor) would be significant and, even with full implementation of CUL-9 and CUL-12, would not be mitigated to a less than significant level" (p. 2).

In addition, the two 750 foot tall towers will have significant adverse visual impacts on the Old Spanish Trail, a National Historic Trail. Bill Helmer, the Tribal Historic Preservation Officer for the Big Pine Paiute Tribe, studied this area in 1998 as part of the National Park Service team which conducted the preliminary research for the Old Spanish Trail Feasibility Study. He also hiked a 350 mile segment of the Old Spanish Trail in 1983, with a 22 mile walk from Resting Springs on the west, past the project site to Stump Spring. Industrial-scale developments definitely would encroach upon the historic qualities of this landscape and would compromise the integrity of the Old Spanish Trail in this area.

Comment 1

Preliminary Staff Assessment (PSA), Biological Resources

Comment 2

The project will use approximately 140 acre feet of water a year. The Pahrump Valley groundwater basin has been in a state of overdraft for decades. The additional amount of water depletion for this project could have severe impacts on fragile desert vegetation such as the nearby mesquite bosques and other sensitive plant associations. Some last surviving cottonwoods and willows at Stump Spring not mentioned in the report may also be severely threatened with even minimal impacts to groundwater depletion.

The PSA recommends a monitoring plan in case the project produces adverse impacts to vegetation. This monitoring plan is inadequate because it seems that impacts to vegetation due to the project would be discovered after the damage had already been done. The project's impact on water resources and water-sensitive species and habitat would be significant, and could not be mitigated to a non-significant level.

Comment 3

Comment 4

Distributed Generation Alternative Needed

It is well known that Distributed Generation is a viable alternative to the industrial-scale projects which require huge adverse impacts to cultural, historical, biological, and visual resources (Bill Powers and Sheila Bowers, *Distributed Solar PV – Why It Should Be The Centerpiece Of U.S. Solar Energy Policy* (http://solardoneright.org/index.php/briefings/post/distributed_solar_pv_why_it_should_be_the_centerpiece_of_u.s._solar_energy_/). However, this alternative is not included in the PSA. It is recommended that a Distributed Generation Alternative be included in the Alternatives section.

Sincerely,

Virgil Moose
Tribal Chairperson

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	
APPLICATION FOR CERTIFICATION FOR THE HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM (SEGS)	DOCKET NO. 11-AFC-2

INTERVENOR CENTER FOR BIOLOGICAL DIVERSITY'S COMMENTS ON THE PRELIMINARY STAFF ASSESSMENT MAY 2012 CEC-700-2012-003-PSA HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM (HHSEGS)

July 21, 2012

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STATE OF CALIFORNIA
Energy Resources Conservation and Development Commission

In the Matter of:

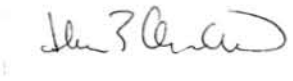
APPLICATION FOR CERTIFICATION FOR THE HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM (SEGS)

DOCKET NO. 11-AFC-2

The Center for Biological Diversity ("Center") submits the following comments on the Preliminary Staff Assessment May 2012 CEC-700-2012-003-PSA– Hidden Hills Solar Electric Generating System (HHSEGS).

Dated: July 21, 2012

Respectfully submitted,



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July 21, 2012

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RE: Application For Certification For The Hidden Hills Solar Electric Generating System Docket No. 11-AFC-02: Comments on the Preliminary Staff Assessment May 2012 CEC-700-2012-003-PSA– Hidden Hills Solar Electric Generating System (HHSEGS)

Dear Mr. Monasmith,

The Center for Biological Diversity ("Center") is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 378,000 members and supporters throughout California, Nevada and the western United States, including members that live nearby the vicinity of the proposed Hidden Hills Solar Electric Generating System (HHSEGS) and recreate in the nearby public lands. On December 22, 2011, the Center was granted leave to intervene in this proceeding. The Center submits these comments regarding the May 2012 Preliminary Staff Assessment ("PSA") on behalf of our board, staff and members.

I. INTRODUCTION

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting its mandated emission reductions. The Center strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitat, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission lines and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

The current site proposed for this project in the Pahrump Valley in Inyo County, California is relatively devoid of human disturbance except for some dirt roads and the abandoned agricultural orchard. We concur with the Preliminary Staff Assessment which states, "The Hidden Hills Solar Electric Generating System project (HHSEGS or project)

would have significant direct and indirect impacts on biological resources." PSA at pg.4.2-1.

For biological resources and other topics, the PSA is incomplete, making it impossible to assess much less comment on the all of the proposed project impacts. However, based on the information provided in the incomplete PSA, significant impacts have been identified for a suite of species (PSA pg 4.2-63-67) including groundwater dependent vegetation, special status plant species, migratory/special status resident avian species and potentially golden eagle and negative impacts to numerous other rare plants and animals, including the beleaguered desert kit fox and the declining state threatened desert tortoise. Additionally, six "blue line" stream and an unidentified number of ephemeral drainages covering 28.33 acres of waters of the state would be impacted by the HHSEGS on the proposed site. The proposed project intends to pump groundwater from the already overdrafted aquifer further impacting precious desert water resources. The following comments address these issues:

II. COMMENTS ON THE MAY 2012 PSA

A. The Alternatives Analysis Outlined in the PSA Fails to Comply with CEQA

Comment 1

Pursuant to CEQA, the "policy of the state" is that projects with significant environmental impacts may not be approved "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects…" Pub. Res. Code § 21002; Guidelines § 15021(a)(2). A Project should not be approved if environmentally superior alternatives exist "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." Pub. Res. Code §§ 21002; Guidelines §§ 15021(a)(2), 15126.6. The Project must be rejected if an alternative available for consideration would accomplish "most [not all] of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." Guidelines § 15126.6(c).

Comment 2

Accordingly, the environmental review documents must consider a range of alternatives that would achieve the basic objectives of the project while avoiding or substantially lessening significant environmental effects, and it is essential that the "EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." CEQA Guidelines § 15126.6. Alternative sites must also be considered where relocating the project would substantially lessen the significant impacts of the project. Guidelines Section 15126.6(f)(2). *See Citizens of Goleta Valley v County of Santa Barbara* (1988) 197 Cal.App.3d 1167; *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437 (whether an alternative site may be feasible even where it requires a change in land use designation; to determine feasibility requires detailed analysis of the alternatives; and even if an alternative is less profitable than the project as proposed it may still be a feasible alternative).

Comment 2, cont'd

Because the agency is charged with considering alternatives to avoid and minimize impacts, it cannot lawfully fulfill this duty based on the limited alternatives analysis presented in the PSA. Most importantly in this instance, the PSA must look at alternative sites that could avoid impacts to desert including resources where significant unmitigable impacts would occur. Alternatives could minimize or eliminate even supposedly "mitigable" impacts to species and communities such as water dependent vegetation by significantly reducing the need to pump more groundwater out of an already overdrafted groundwater system, or move the tortoises out or their native home ranges – a so-called mitigation measure that in practice has proved to be a disaster for the species. Therefore, the PSA should fully explore other alternatives that would achieve the same level of renewable energy production—the basic objective of the project—but without the significant impacts of the proposed project.

Comment 3

While the PSA provides review of five alternatives, we do not believe that the agency has as yet adequately explored alternative sites. This is evidenced by the fact that only one alternative site was discussed in any detail—Sandy Valley—although it would have substantially fewer impacts to biological resources than the proposed project. PSA at 6.1-24-25. Clearly this alternative is a feasible alternative that achieves the proposed project's goals while significantly reducing impacts to biological resources.

However, simply looking at one alternative site with fewer impacts as the proposed project does nothing to fulfill the agency's duty under CEQA. It strains credulity to believe that there are no other sites in California where the valid project objectives could be accomplished while further reducing the impacts (for example from required transmission infrastructure and gas pipeline which are essential infrastructure for this project but are not being analyzed in the PSA – see below discussion). Furthermore, it is unclear if this alternative is actually a currently proposed project, called Sandy Valley SEGS.

Comment 4

Comment 5

The remaining alternatives in the PSA explore different types of technologies on the same site. Several of the alternative technologies appear to be superior to the proposed project both in reaching and surpassing the goals of the proposed project and minimizing environmental impacts. For example, the photovoltaic alternative, based on the MW/acre presented in Alternatives Table 5 (PSA at 6.1-60-61), shows that the proposed project acreage could easily accommodate a 500 MW solar photovoltaic project, which would significantly reduce the need for ground water pumping in the already over-drafted Pahrump aquifer (PSA at 6.1-68), which may very well have hydrologic connection to the Amargosa River. It would also significantly reduce some of the unmitigable visual resources impacts by eliminating the two 750-foot towers, lower fire risks through the elimination of superheated fluids on-site, reduce air quality issues (PSA at 6.1-62), eliminate the need for construction of a gas pipeline, reduce noise and vibration impacts (PSA at 6.1-64), reduce public health impacts (PSA at 6.1-64), reduce glint and glare to adjacent traffic and transportation (PSA at 6.1-65), significantly reduce biological impacts to water dependent vegetation and avian species (PSA at 6.1-63), cultural resources (PSA at 6.1-63), and geology and paleontology (PSA at 6.1-63). With

Comment 5, cont'd

all of these identified reductions in impacts, clearly a solar photovoltaic project would be a better project choice in avoiding and minimizing impacts.

Comment 6

These alternative-technology alternatives appear to be eliminated not because they are infeasible but because of their "effectiveness" (PSA at 6.1-78), although the PSA does point out that the difference between the "effectiveness" of the proposed technology and single-axis tracking PV panels is "insignificant" (PSA at 6.1-79). The overall analysis of "effectiveness" is unacceptable because if fails to take into consideration flexibility of different technologies in avoiding impacts. The PSA is deficient because it failed to meet the requirements of CEQA as outlined in *Preservation Action Council v City of San Jose* (2006) 141 Cal App 4th 1336. In *Preservation Action Council*, the Respondent lead agency relied heavily on the Real Parties' project objectives and the EIR rejected a smaller alternative that would have met all project objectives except for size, and would have been environmentally superior. *Id.* at 1355. The Court rejected the EIR finding that it did not meet the information requirements of CEQA because the inadequacies in the EIR's analysis "meant that the public and the City Council were not properly informed of the requisite facts that would permit them to evaluate the feasibility of this alternative." *Id*. at 1355. The PSA draft provided to date is similarly deficient.

Comment 7

Comment 8

The PSA provides a basic description of the objectives of the project (PSA at 6.1-3), but it then unreasonably narrows the objectives used to consider the viability of alternatives and unreasonably includes timing of the environmental review as a basic objective of the project and fails to evaluate at all if the proposed project actually will result in competitively priced renewable energy. PSA at 6.1-3. Given that the staff has stated that the applicant has to date failed to complete necessary studies and provide other information needed for the environmental review (*see, e.g.*, PSA at 4.2-62 (applicant has not provided results of all rare plant surveys) and a CEC workshop is currently being scheduled on the impacts of solar flux on avian species), the timing of the environmental review cannot fairly be used as a "basic objective" of the project such that it limits the consideration and evaluation of alternatives that would avoid significant impacts to environmental resources of California. Indeed, to the contrary, it appears from the available documents filed to date that the applicant has thus far been unable to provide the complete surveys and information regarding the impacts to the rare plants, desert kit fox and other resources, which indicates that this site may be inappropriate for such a large-scale industrial development project. This further underscores the need for the agency to comprehensively explore a range of alternative sites that will avoid these and other significant impacts of the project.

Comment 8a

Comment 9

The basic objectives of the project are to provide 500-MW of renewable power in California. This goal can be met in a number of ways by feasible alternatives that would avoid impacts to the desert tortoise and intact habitat, rare plants, water resources, and waters of the state. While "high solarity" may be necessary for the type of large-scale solar thermal plant that the applicant prefers to build, the added costs and energy losses from transmission, which is not being analyzed as part of this project, although new transmission and a gas pipeline are essential infrastructure for this project, may make it more cost effective to locate a solar power generating facility closer to load centers such

Comment 9, cont'd

as the cities such as Los Angeles and San Diego which have significant "solarity" even if it is not the very highest amount. In evaluating this factor the agency should assess whether re-use of disturbed sites near existing population centers could both meet the project objectives and avoid many of the significant environmental impacts of the project including impacts to rare species, natural communities and water. Given the economic set-backs in the past year, there are more and more large-scale industrial areas that are under-utilized in many parts of southern and central California. These industrial parks, malls and auto rows long ago replaced native habitat, they are connected to the power grid, and are readily accessible to workers for jobs in California. Converting these areas to solar centers is a feasible alternative that would have many societal benefits (including maintaining robust economic zones and avoiding urban blight) and would avoid nearly all of the environmental impacts of siting this project in ecologically functioning habitat in the Mojave Desert that supports many rare and less common species and communities. Accordingly, the PSA should also explore the use of distributed smaller-scale solar as an alternative.

Comment 10

B. Additional Analysis is Needed to Assess All Impacts that Require Avoidance and Minimization

Even if the Project is eventually approved to go forward at the Hidden Hills site which it should not be based on feasible alternatives, significant impacts must be avoided to the extent feasible and minimized. Some impacts that were not fully analyzed in the PSA that will need to be avoided or minimized and mitigated include growth-inducing impacts and habitat fragmentation.

Comment 11

Growth-Inducing Impacts: CEQA requires environmental analysis to consider the ways in which the proposed project could foster economic, housing, or population growth, whether directly or indirectly in the surrounding environment. Guidelines § 15126.2(d); *see also* 14 Cal. Code Regs § 15358(a)(1) ("Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems."). The Guidelines specifically require that the EIR should "discuss the characteristics of [] projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively." Guidelines § 15126.2(d). Growth-inducing impacts from the proposed project in the Pahrump Valley include encouraging additional large-scale solar projects to be sited in this same area across the state line in Nevada and making it more likely that additional solar development projects could be approved in this same area. For example, the placement of one industrial project with a new powerline connection, substations, gas pipeline and/or new access roads may make it more likely that a second or third project will be sited in this area. Siting multiple projects in this area could lead to complete collapse of the habitat values in this valley due to habitat loss and fragmentation. This would be a significant change to an area which now contains a significant amount of contiguous, high value, intact habitat for the desert tortoise and other species and exacerbate the groundwater overdraft. The need for additional analysis of the impacts

from multiple solar projects that have pending applications in this area and in the Mojave ecosystem is discussed further below in the section on cumulative impacts.

C. Desert Kit Fox

Comment 12 While the PSA recognizes that the desert kit fox is a protected animal as a furbearing mammal under California Code of Regulations Title 14 Section 460 (PSA at 4.2-11) and recognizes that desert kit fox occurs on site (PSA at 4.2-4), no surveys were done to quantify the density of desert kit fox that will be displaced and "taken" by the proposed project. As the CEC is well aware, the first documentation of a deadly outbreak of canine distemper was confirmed in late 2011 in desert kit fox, when dead kit foxes found on and adjacent to the Genesis industrial solar project during construction were necropsied by state veterinarians.

Comment 13 Kit foxes have great fidelity to their natal burrows and as documented on the Genesis project site are not easily evicted from their burrows and home ranges through "passive relocation" or hazing. The PSA need to require that "take" permits be acquired for desert kit fox, as the California Department of Fish and Game did on Genesis, to allow for accurate tracking and monitoring of desert kit foxes to determine the efficacy of "passive relocation". Tracking the "passively relocated" kit foxes will enable monitoring of the ultimate outcome of the hazing activities, and should allow for identification of distemper outbreaks earlier on, where the disease may be more easily controlled.

Comment 14 As the CEC is also well aware, despite the efforts of state and federal biologists, who tried to prevent the distemper outbreak from spreading, their efforts have not been successful, and so far the kit fox distemper epidemic has spread at least over eleven miles south of the Genesis project site. Hope has dimmed that the epidemic can now be contained. Additional disruption of native populations of desert kit foxes from hazing them off this proposed project site will result in additional displaced animals wandering the desert and potentially being vectors for spreading the disease farther through the population.

The state wildlife veterinarian for the California Department of Fish and Game isn't certain the distemper outbreak is connected to the construction activities, but has concluded that habitat disturbance causes stress, and when animals succumb to stress they become more susceptible to disease.

Comment 15 The PSA fails to quantify how many kit fox territories overlap the proposed project site, analyze the impacts from the proposed project or provide any avoidance, minimization or mitigation measures regarding this increasingly rare and declining species. Clearly a supplemental SA needs to include a substantial section on the status of the on-site desert kit fox population and strategies to minimize and mitigate impacts to this species.

D. Desert Tortoise: Analysis of Impacts is Inadequate and the Translocation Plan is Missing

Comment 16 The desert tortoise is continuing to decline throughout its range (USFWS 2008) despite being under federal and state Endangered Species Acts protection as threatened for two decades. We submitted the USGS data set that indicates that most of the proposed project site is located within modeled desert tortoise habitat.

Murphy et al. (2007) undertook extensive genetic analysis across the range of the desert tortoise and identified genetically unique populations within the larger listed population. The desert tortoise located on the HHSEGS site represents a unique genetic group – the Eastern Mojave group. Because these animals represent a unique occurrence in California, adequate avoidance, minimization and mitigation must be applied to this project. The uniqueness of this population is also recognized both in the 2011 Desert Tortoise Revised Recovery Plan (USFWS 2011) as the Eastern Mojave Recovery Unit.

Comment 17 Additionally, the Scientific Advisory Committee of the U.S. Fish and Wildlife Service's Desert Tortoise Recovery Office has concluded that "translocation is fraught with long-term uncertainties, notwithstanding recent research showing short-term successes, and should not be considered lightly as a management option. When considered, translocation should be part of a strategic *population augmentation program*, targeted toward depleted populations in areas containing "good" habitat. [emphasis added]. The SAC recognizes that quantitative measures of habitat quality relative to desert tortoise demographics or population status currently do not exist, and a specific measure of "depleted" (e.g., ratio of dead to live tortoises in surveys of the potential translocation area) was not identified. Augmentations may also be useful to increase less depleted populations if the goal is to obtain a better demographic structure for long-term population persistence. Therefore, any translocations should be accompanied by specific monitoring or research to study the effectiveness or success of the translocation relative to changes in land use, management, or environmental condition."[1] Translocation should be used as a tool to *augment populations within depleted recovery units*, not as a mitigation strategy to allow for development in desert tortoise habitat.

Comment 18 As the CEC is well aware, the project proponent *significantly* underestimated the number of desert tortoise on the Ivanpah Solar Electric Generating System (ISEGS) site, despite expert testimony and filings from intervenors including the Center that provided compelling evidence that the there would be many more desert tortoise on the project site, based on habitat and survey methodology. Unfortunately the intervenors were correct. So many more desert were found on the project site that the "take' limit for desert tortoise was quickly exceeded and the project was forced to cease construction via a stop-work order while subsequent reconsultation with trustee state and federal wildlife agencies was implemented. Based on this disaster, the proposed project should be held to much higher standards of survey data and analysis or an alternative developed and selected that is out of desert tortoise habitat to preclude impacts to this state and federally

[1] http://www.fws.gov/nevada/desert_tortoise/documents/sac/20090313_SAC_meeting_summary.pdf

threatened species. Selecting a better site for project implementation that avoids, and minimizes the impacts to the environment is required under CEQA.

Lack of Desert Tortoise Translocation/Relocation Plan: As noted in the PSA, "the legal and practical ramifications of translocation remain unresolved at this time" (PSA at 4.2-74). While the number of desert tortoise that are proposed to be moved are estimated to be between 6 to 33 adult and sub-adult desert tortoises, 3 to 34 juvenile tortoises and approximately 46 to 158 eggs. Due to the lack of a relocation or translocation strategy, it is impossible to evaluate the impact to on-site desert tortoise from the information presented in the PSA.

Comment 19

If translocation is implemented for use on the proposed project, the agency should carefully review the Desert Tortoise Recovery Plan (USFWS 2011) and require incorporation of the U.S. Fish and Wildlife Service's most recent (2010) guidance on desert tortoise translocation[2]. Additionally the translocation plan should incorporate new information on current translocation implementation successes (if there are any). Information on desert tortoise home ranges, landscape carrying capacity, and other ecological factors need to be included in a revised or supplemental SA, so that the public and decision makers can more accurately evaluate the impacts from the proposed project

We also request that the following recommendations that originate with the Desert Tortoise Recovery Plan are incorporated into the translocation plan:

- Provide monitoring to confirm that desert tortoise "establish home ranges and integrate into any existing social structure". Note is taken that no translocation studies have been implemented long enough to confirm integration, so moving forward with yet another translocation without the data required to confirm actual integration of the translocated tortoises into the existing population renders the translocation effort experimental. The experimental nature of the action then requires at a minimum a long-term commitment to monitoring and potential adaptive management to ensure that these animals and the unique genotypes that they represent continue to survive.

Comment 20

- Temporary fencing should be included in the relocation areas as well, due to the well documented fact that desert tortoises will try to return to their home range. Additionally, provisions to deal with the fact that desert tortoises will end up along the new tortoise proof fences of the project site, trying to get back to their home territory, should be included because this behavior leaves them vulnerable to predation.
- Determine the translocation site's carrying capacity. In light of global climate change and the predicted warming of the desert, translocation zones should only be located at *higher* elevations, not lower areas of the Pahrump Valley.
- At least a two-year study should be undertaken on the host population prior to translocation.

[2] http://www.fws.gov/ventura/species_information/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx

Comment 21 In addition to the avoidance and minimization measures and any translocation effort, adequate mitigation at a rate of at least 5:1 to off-set the impacts to the desert tortoise is required, including acquisition of private lands in nearby desert tortoise habitat to be set aside as tortoise conservation areas in perpetuity so that the mitigation has durability. In order to adequately mitigate for the desert tortoise population that will be affected by the proposed project, the mitigation needs to occur within this same recovery unit, and as close to the proposed project site as possible. Additionally, the proposed mitigation has differing ratios for Mojave Desert scrub (3:1) and Shadscale Scrub (1:1) (PSA at 4.2-86). As we have brought up repeatedly at workshops, Shadscale scrub is a much rare community type than Mojave Desert scrub, therefore the PSA should not treat these different community types differently. A 5:1 ratio of mitigation is required because 1) the desert tortoise population continues to decline[3], 2) more of its habitat is being developed, which is a net loss to the species[4], and 3) fragmentation of the habitat, including this proposed project continues.

E. Bighorn Sheep: Analysis of Impacts is Incomplete

Comment 22 Important native (i.e. not re-introduced) populations of desert bighorn sheep occur in mountain ranges[5] adjacent to the HHSEGS. Bighorn are a large and wide-ranging species that require connectivity across large landscapes in order to assure persistence. Existing anthropogenic barriers have already eliminated gene flow between certain populations[6]. Elimination of sheep connectivity by HHSEGS could lead to further isolation and inbreeding issues. Additional information on bighorn sheep movement corridors and the impact of development on them needs to be included. Avoidance of these areas needs to be included, or minimization and effective mitigation if the project actually could impact these important linkages. Indeed, public comment at CEC's June 27, 2012 workshop identified that desert bighorn sheep have been documented on the proposed project site.

Comment 23 To date, no studies have been done on the effects that miles of mirrors may have on bighorn sheep movement or effects of their use of historical lambing areas. Data indicate that human caused disturbance negatively affects species fitness and population dynamics via the energetic and lost opportunity costs of risk avoidance[7]. More information about the potential impact from the installation and operation of mirrors on desert bighorn needs to be included.

Comment 24 Desert bighorn rely on springs and seeps, especially during the hot dry summer months for their survival in the ranges adjacent to the proposed project site and while moving across the valley floor. While the goal of the groundwater mitigation and monitoring requirements is to minimize impacts to the groundwater, there is no guarantee that impacts from this activity will not impact, to some extent the springs and seeps, that

[3] http://www.fws.gov/nevada/desert_tortoise/dt_reports.html
[4] Moilenen et al 2009; Norton 2009
[5] Epps et al. 2004
[6] Epps et al. 2005
[7] Frid and Dill 2002

Comment 24, cont'd

the desert bighorn rely upon. The monitoring plan will only identify water drawdown after it has occurred, and this could be deadly for bighorn and other desert species that depend on the springs and seeps for survival. For that reason, the CEC should consider the requirement of artificial guzzlers at strategic locations to help offset the impacts of the proposed project to bighorn (and other wildlife). Please refer to our water resources section pertaining to impacts to seeps and springs from the groundwater pumping proposed by the project, and please provide an analysis of the potential impacts to bighorn sheep including the potential mitigation of guzzlers in a supplemental SA.

F. Rare Plants: Data and Analysis Incomplete

Comment 25

As noted in the PSA, data is lacking on the spring 2012 surveys for rare plants. As it is, the site appears rich with rare botanical resources (PSA at 4.2-132) based on the reported survey results, and the analysis of impacts to a five of the ten rare plants that occur on the project site are significant and "immitigatable". What does this term – immitigable - actually mean? While the lack of survey data and analysis makes it impossible to determine the impacts to the species, clearly the proposed project site is poorly sited because of the number of rare plant species that occur on the site. Avoidance is the most preferred method to eliminate impacts to rare plants, many of which appear to be located in the eastern portion of the project area (where other rare biological resources also occur).

If avoidance is not possible, then securing additional sites for conservation in perpetuity will be necessary. Mechanisms must be put in place to secure all areas acquired for mitigation from future impacts such as conservation easements in perpetuity (see discussion below about durability of mitigation).

Comment 26

While transplantation of rare plants has been documented to be mostly unsuccessful[8], if relocation is to be part of the mitigation effort, then a clear and concise relocation plan should be developed and included as supporting documentation in the Final Staff Assessment for public review. So many times these plans are proposed to be developed in the future, with no public input or review. We believe these plans should be included as part of the CEQA process and that their absence is a violation of CEQA. If plants are to be moved, requirements for interim monitoring during establishment (including triggers for adaptive management to meet the needs of plant survival) need to be put in place. Long-term monitoring for survivorship and successful reproduction and establishment also needs to be included as part of the mitigation requirements if relocation is a chosen strategy.

Comment 27

To assure conservation of the rare plants in addition to avoidance and minimization and mitigation presented above, seed collection and curation into a seed bank should be required, to preclude potential genetic loss of the species if avoidance, minimization and mitigation measures should fail.

[8] Feidler 1991

G. Western Burrowing Owl

Comment 28 The information in the FSA regarding the status of the burrowing owl on the project site is confusing. It remains unclear how many burrowing owl territories are located in the project area. As with the kit fox, desert tortoise and other species, a plan is to be produced for mitigation and monitoring of burrowing owls, but that plan is not provided in the PSA. It is therefore unclear how the compensation acreage for burrowing owl impacts was calculated (PSA at 4.2-69)

H. Golden Eagles

Comment 29 The PSA recognizes that the proposed project "would remove approximately 3,277 acres of foraging habitat for golden eagle and migratory birds" (PSA at 4.2-4) and that "the USFWS may consider this loss to constitute substantial interference with normal breeding, feeding, or sheltering behavior, which would be considered a "take."" (Ibid). The PSA fails to present exactly how to mitigate the loss of a substantial amount of foraging habitat for the golden eagle from this project. The fact still remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity.

Comment 30 Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest[9]. Regardless of distance, a straight-line view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of viewsheds using a three-dimensional GIS tool and development of buffers based on the modeling[10]. Golden eagles have also been documented to avoid industrialized areas that are developed in their territory.[11]

Comment 31 Furthermore, information on the impacts to avian species from the power tower technology is well documented[12]. The PSA fails to analyze impacts to golden eagles from the solar flux and towers. Because the CEC is proposing a workshop on these issues in early August, the PSA once again seems premature, having been issued before data on this key environmental issue is available.

Comment 32 In addition, the construction of the mandatory transmission line, an essential connected project to the HHSEGS, will cause additional direct and indirect impacts to golden eagles, yet these impacts remain unanalyzed in the PSA. Because the transmission line is a connected project that is necessary for the HHSEGS to get the electricity onto the grid, a supplemental SA must include an environmental analysis of this transmission line project.

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[9] Richardson and Miller 1997
[10] Camp et al. 1997; Richardson and Miller 1997
[11] Walker et al. 2005
[12] McCrary et al. 1986

Comment 33 Based on the severity of the incomplete impacts identified in the PSA alone, the CEC must consider other alternatives that minimize the impacts to the fully protected golden eagle.

I. Groundwater Dependent Vegetation

Comment 34 As with the rare plants, the impact analysis and mitigation is incomplete, making it impossible to comment on the proposed action. Based on current proposed monitoring scheme, impacts to this rare plant community and vital wildlife resource will still be impacted by the proposed project. Additional off-site impacts to more distant groundwater dependent vegetation communities in the Amargosa Valley do not appear to be included in the analysis either. The supplemental SA needs to clarify the issues associated with the groundwater dependent vegetation.

J. Mitigation, Nesting and Acquisition Ownership

Comment 35 Mitigation acquisitions must mitigate for the impacts of the project. While the project proponent is currently taking advantage of the mitigation opportunities established under SBX8 34 for the impacts to desert tortoise from the ISEGS project, we note that the proposed mitigation does not actually mitigate for the impacts because the land acquired by CDFG are outside of the northeastern recovery unit for the desert tortoise, which is where the impacts from the ISEGS project occurred. The HHSEGS project occurs in the Eastern Mojave Recovery unit, and therefore mitigation for desert tortoise must occur within this desert tortoise recovery unit.

Comment 36 Any "nesting" of mitigation acquisitions must assure that impacted species are actually mitigated by the acquisition property. Therefore species presence at densities found on the proposed project site or greater must be documented through monitoring of the potential mitigation site prior to acquisition in order to adequately fulfill the mitigation requirement.

Comment 37 Mitigation acquisitions must be managed by a land management entity that can assure conservation of those lands in perpetuity. For example, the Bureau of Land Management can not assure conservation of lands donated to it based on its multiple use mandate. Therefore, the PSA should clearly lay out a mitigation strategy to assure land ownership/management that will result in conservation of all mitigation acquisitions in perpetuity.

K. Missing Plans

Comment 38 Numerous plans are relied upon in the PSA to provide adequate avoidance, minimization and mitigation of biological resources. However, these plans are not available for public review, which makes it impossible for the public and decision makers to actually evaluate if these plans do what the PSA intends them to do. Examples of missing plans include:

- Weed Management Plan
- Bird Monitoring Study
- Burrowing Owl Mitigation Plan
- Avian, Bat, and Golden Eagle Protection Plan
- Management plan for desert kit fox and American badger
- Biological Resources Mitigation Implementation and Monitoring Plan
- Desert tortoise translocation plan

Comment 39

These plans should be made available to the public before the FSA in a supplemental SA.

L. Water Resources: Requires Additional Information and Analysis

Comment 40

The PSA indicates that up to 140 AFY of water will be used yearly on the HHSEGS site during normal operations (PSA at 4.15-2), although construction water use could be as high as 288 AFY for up to three years (PSA at 4.15-8). Although no water will leave the site, additional information on the effects of groundwater pumping on nearby seeps and springs in the adjacent mountains is lacking. In fact the seven-day ground water pump test that the CEC required was never completed. We have repeatedly requested that the seven-day ground water pump test be completed and once again ask the CEC to enforce their own requirement. No data is presented that addresses the hydrological connection between these essential wildlife sustaining locations, the Amargosa drainage and the proposed project impacts.

Additionally, because of the substantial evaporation rate at the project site, please provide data on how much pumped ground water will actually be returned to the groundwater basin.

Comment 41

Waters of the State: The PSA indicates that 28.33 acres of Waters of the State (PSA at 4.2-6), which will need to be mitigated. In this arid part of the state, this impact is significant. Again we urge the CEC to look at avoidance and minimization of the impact through alternative siting.

Comment 42

As with the other sensitive resources, securing additional sites for conservation in perpetuity will be necessary, and may be accomplished in conjunction with sensitive species mitigations. Because the proposed project is relying on groundwater pumping as its water source, it is crucial to replicate the existing surface hydrology to enable groundwater replenishment, particularly with regards to the slow pace of groundwater recharge in the desert.

M. Essential Part of the HHSEGS Project Not Analyzed.

Comment 43

As discussed above, the HHSEGS project relies upon an unbuilt transmission and gas pipeline that are currently undergoing National Environmental Policy Act (NEPA) review in Nevada. That NEPA review does not relieve the CEC from including environmental review of those projects which are clearly connected and required by the

HHSEGS project. The transmission lines and gas line do not rely upon the HHSEGS in order to be viable projects, but the HHSEGS relies upon the transmission and gas pipeline in order to be a viable project. Therefore the CEC needs to include the transmission line and gas pipeline as part of the HHSEGS project and must analyze the project and its impacts in a supplemental SA.

Comment 44

N. Cumulative Impacts are Not Fully Disclosed and Analyzed

Comment 45

Even before undertaking a fully adequate analysis of the cumulative impacts as outlined in the Cumulative Scenario, the PSA admits that impacts from this project will be "cumulatively considerable" (PSA at 4.2-172). CEQA requires not only full disclosure of cumulative impacts but a full and fair effort on the part of the agency to first avoid such impacts, and then to ensure any remaining impacts are minimized and mitigated. Until the agency completes an adequate alternatives analysis, the staff conclusions that not all cumulative impacts can be mitigated are premature.

Comment 46

Additionally, the cumulative impacts need to identify the impacts to desert tortoise by translocation and relocation efforts. As the other potential projects get implemented, it will push higher and higher numbers of desert tortoises into smaller and smaller areas. Additional development of other renewable energy projects in the Pahrump valley in Nevada will also further isolate the existing population of resident, relocated and translocated desert tortoise in the Eastern Mojave recovery unit. These same potential isolation issues due to the cumulative impacts of projects proposed in the Pahrump Valley also need to be discussed for desert bighorn sheep and groundwater pumping. All of these cumulative impacts need to be included and analyzed in a supplemental SA.

O. Conformance with the Desert Renewable Energy Conservation Plan

Comment 47

The CEC is signatory to the planning agreement for the Desert Renewable Energy Conservation Plan (DRECP), a proposed conservation plan under the Natural Communities Conservation Plan Act (NCCPA). The NCCP Act 2810 (b)(8)requires that "interim process during plan development for project review wherein discretionary projects within the plan area subject to Division 13 (commencing with Section 21000) of the Public Resources Code that potentially conflict with the preliminary conservation objectives in the planning agreement are reviewed by the department prior to, or as soon as possible after the project application is deemed complete pursuant to Section 65943 of the Government Code and the department recommends mitigation measures or project alternatives that would help achieve the preliminary conservation objectives. As part of this process, information developed pursuant to paragraph (5) of subdivision (b) of Section 2810 shall be taken into consideration by the department and plan participants". The current preliminary conservation strategy of the DRECP[13] identifies the proposed project site as moderate biological sensitivity, surrounded by high biological sensitivity area and considers it for conservation purposes, not development purposes.

[13] http://www.drecp.org/documents/#conservation

Comment 48

To that point, the PSA fails to provide an evaluation of the conformance of the HHSEGS with the preliminary conservation objectives of the DRECP as required under the NCCPA. Therefore, we request that the supplemental SA include an analysis of the conformance of this proposed project with the DRECP.

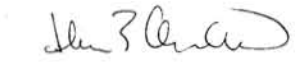
III. CONCLUSION

From a scientific perspective, developing utility scale renewable energy project in the California deserts without comprehensive planning is a huge gamble for wildlife[14]. .For this and future proposed projects, mechanisms should be put in place that encourage solar facilities to be proposed and sited on disturbed lands instead of in fully ecologically functioning habitat such as is found in the Pahrump Valley at the Hidden Hills proposed project site, which support a variety of rare and threatened species.

We hope and expect that the agency will carefully consider the proposed impact reducing alternatives and others and go beyond the admittedly incomplete and preliminary information provided in the PSA. The CEC should revisit these issues in detail, filling in the missing data gaps and analyses and provide a full range of alternatives, including distributed solar generation, as part of a supplemental SA for public review.

Thank you for the opportunity to submit these comments. Please feel free to contact me for additional information at 535-654-5943 or at ianderson@biologicaldiversity.org

Respectfully submitted,



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[14] Lovich and Ennen 2011

References (Provided on CD to the CEC and parties)

Camp, R.J., D.T. Sinton and R.L. Knight 1997. Viewsheds: a Complementary Management Approach to Buffer Zones. Wildlife Society Bulletin 25(3): 612-615.

Epps, C.W., P.J. Palsboll, J.D. Wehausen, G.K. Roderick, R.R. Ramey II, and D.R. McCullough 2005. Highways block gene flow and cause a rapid decline in genetic diversity of desert bighorn sheep. Ecology Letter 8: 1029-1038.

Epps, C.W., D. R. McCullough, J.D. Wehausen, V. C. Bleich and J.L. Rechel 2004. Effects of Climate Change on Population Persistence of Desert-Dwelling Mountain Sheep in California. Conservation Biology 18 (1): 102-113.

Feidler, P.L. 1991. Mitigation-related transplantation, relocation and reintroduction projects involving endangered and threatened, and rare plant species in California. California Department of Fish and Game Contract No. FG-8611. Pgs. 144

Frid, A. and L. Dill 2002. Human-caused disturbance stimuli as a form of predation risk. Conservation Ecology 6(1): 11.

Lovich, J.E. and J.R. Ennen 2011. Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States. BioScience 61(12): 982-992

McCrary, M.D. 1986. Avian Mortality at a Solar Energy Power Plant. Journal of Field Ornithology 57(2): 135-141

Moilanen, A., A.J.A. van Teeffelen, Y. Ben-Haim and S. Ferrier. 2009. How much compensation is enough? A framework for incorporating uncertainty and time discounting when calculating offset ratios for impacted habitat. Restoration Ecology 17(4): 470-478

Murphy, R.W., K.H. Berry, T. Edwards, A.M. McLuckie. (2007) A Genetic Assessment of the Recovery Units for the Mojave Population of the desert tortoise (Gopherus agassizii). Chelonian Conservation and Biology 6(2): 229-251.

Norton, D.A. 2009. Biodiversity offsets: two New Zealand case studies and an assessment framework. Environmental Management 43(4):698-706

Richardson, C.T. and C.K. Miller. 1997. Recommendations for protecting raptors from human disturbance: a review. Wildlife Society Bulletin 25(3): 634-638.

Walker, D., M. McGrady, A. McCluskie, M. Madders and D.R.A. McLeod 2005. Resident Golden Eagle Ranging Behaviour Before and After Construction of a Windfarm in Argyll. Scottish Birds 25: 24-40.

OSTA's Public Comment on CEC Preliminary Staff Assessment of Cultural Resources, in conjunction with the license application for Hidden Hills Solar Energy Generation System (HHSEGS)

Submitted July 23, 2012

The OSTA Comment and Its Confidential Appendix

The Old Spanish Trail Association submits the following comments regarding the California Energy Commission's Preliminary Staff Assessment (PSA), particularly the section dealing with cultural resources, which was issued on June 15, 2012.

This public comment addresses non-site specific statutory measures providing for the protection of National Historic Trails. These are all matters of public law and administration. Separately, OSTA is submitting a Confidential appendix to this comment--which will be subject to the same confidentiality strictures as the CH2MHill's cultural resources reports. The Confidential appendix addresses specific issues concerning the trail route in and near the HHSEGS site.

OSTA'S Previous Submission to the CEC and the PSA

OSTA's cultural resources report, submitted to the CEC in May, focused on the Old Spanish National Historic Trail/Mormon Road (OSNHT/MR) in and around the Hidden Hills project site. We demonstrated through the use of archival documents, historical maps, and our on-the-ground survey, that portions of the OSNHT mule trace and the later Mormon Road must have passed across the project site.

The Commission's PSA, issued in June, essentially agreed with OSTA's findings. Among the PSA's conclusions on historical cultural resources, we cite the following:

- (quoted from pp. 70-71) "While not all of the traces on the project site have been ground-truthed, it is clear that the project site lies squarely among all of these tracks/traces and, therefore, within the OST-MR Northern Corridor, a regionally and nationally significant travel/trade corridor that aided the exploration and shaped the development of the southwestern United States. Although not formally included in the Act, staff has concluded that these tracks/traces should also be considered part of the Old Spanish National Historic Trail. As such the Corridor is a historical resource for the purposes of the CA Environmental Quality Act and potential impacts resulting from the proposed project must be evaluated. The proposed project has the potential to significantly impact the OST-MR Northern Corridor by erasing traces/trails on site and visually

impacting traces/tracks off site, which could jeopardize the integrity of the OST-MR segment in the Pahrump Valley."

- (p. 71) "The visual quality of this section of the OST-MR would be permanently damaged, resulting in a substantial adverse change in the significance of a historical resource and a significant and unmitigatable impact..."
- (p. 72, emphasis added)" *[CEC] staff is unaware of any action, short of project relocation or denial that would directly avoid or substantially minimize the significant effects* that the proposed project would have on the OST-MR Northern Corridor identified in this document."

OSTA's Response to the PSA Findings

In light of previously published research on the Old Spanish National Historic Trail and the Mormon Road, and considering the archeological survey and archival data submitted by OSTA in our Cultural Resources report to the CEC, OSTA is pleased that the PSA essentially upholds our contention that the HHSEGS project will severely impact the OSNHT/MR. In this comment we wish to emphasize several major points and express additional concerns regarding the project and the PSA findings.

1. The integrity of the OSNHT route is high in the project area, regardless of whether the applicant finds no physical traces.

The significance of the OSNHT is evidenced by its inclusion in the National Trails system, an inclusion based upon extensive research in 200 and 2001 (NPS Feasibility Study 2001). The act designating the OSNHT included maps showing the trail route, with a variability factor to account for areas of disturbance, mapping errors, alternative branches, traversal of private property, etc. In some places, the physical remains of the track may have disappeared, particularly in soft soils. This does not negate the trail route, however. Many important historical sites—battlefields, historical river crossings—may have no remaining physical traces. Their location is established through documentation and oral tradition.

In addition, there is the "goes-in-one-side, comes-out-the-other" argument. The OSTA cultural resources report provided abundant archival evidence that springs and forage areas just to the east of the HHSEGS site were used by travelers on the OSNHT/MR. Likewise OSTA has located and recorded "stubs" of the OST mule trace leading directly away from the project site to the west (Prichett 2012:17).

2. Applicant wrongly concludes that trail and road resources that occur within the HHSEGS project site are not eligible for inclusion on the National Register of Historic Places (NRHP) or the California Register of Historic Places. This conclusion is based on a false and prohibitively narrow view of NRHP and CEQA criteria.

Whether or not segments of the OSNHT/MR are still present on the HHSEGS site, it is clear from the historical evidence that the trail must have passed across the Hidden Hills site, as OSTS the CEC's PSA concluded. That being the case, the integrity of the trail route in the project area allows for the application of NHRP and CEQA criteria.

- Applicant's own citing of Applicable Standards (CH2MHill 2012:5-1)) states one criteria for NRHP listing: It [resource] is associated with events that have made a significant contribution to the broad patterns of history (Criterion A). The fact that Congress in 2002 designated the OST as a National Historical Trail is prima facie evidence of the route's historical importance.

  Consider these measures of the OSNHT's historical significance: The trail served as a path for American explorers of the far west in the first half of the 19th century. Even before the first mule caravan in 1829, its route—south from Utah, across the Mojave, and down the Cajon Pass into southern California—was followed by mountain men, such as Jedediah Smith and perhaps Pegleg Smith (Hafen and Hafen (1993:109-129 and 136). Later, Col. John C. Fremont left California via the Old Spanish Trail in 1844. Fremont's 1845 report on his expedition of 1843-44—including his establishing the fact that the Great Basin is indeed a basin, with no outlet to the sea—brought broad, new understanding of the geography of the western U.S. ***"This report and the Fremont (Preuss) map which accompanied it, changed the entire picture of the West and made a lasting contribution to cartography,"*** wrote Carl Wheat (1955 2:194; emphasis added).

- Applicant further cites NHRP criterion that: It [resource] is associated with the lives of persons significant to our past (Criterion B). This criterion is clearly met in the case of the OSNHT/MR in and near the project area. We have just mentioned Col. John C. Fremont, who camped within a few miles of the project boundary (Steiner 1999:156-159). Kit Carson traveled the OSNHT more than once, his name being indelibly associated with the Hernandez massacre at Resting Springs, the destination of parties leaving the complex of springs immediately to the east of the project. Immigrants arriving in California over the OSNHT include pioneer George Yount, businessman William Workman, and other key builders of American California.

3. In addition to meeting Criterion A and B, the OSNHT in the project area is likely eligible under the NRHP's category of Rural Historic Landscapes (NRHP 1999).

According to the NRHP a historic landscape is: a geographic area that historically has been used by people, or shaped or modified by human activity, occupancy,

or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features." (U.S. Department of the Interior 1999:3).

The Bulletin lists a number of types of rural historic landscapes based upon historic occupation or land use. Two of the categories are transportation systems and migration trails. The OSNHT/MR clearly fits into both these categories. The Bulletin notes: "Because of the overriding presence of land, natural features, and vegetation, the seven qualities of integrity called for in the National Register criteria are applied to rural landscapes in special ways."

These qualities include Location, Design, Setting, Feeling, Association, Materials, and Workmanship. In the case of a trail, Design, Materials, and Workmanship do not apply. However, the following do:

> *Setting*—the physical environment within and surrounding a property, such as mountains, rock formations and vegetation—has a very strong impact on the integrity of Setting. The majestic, largely unspoiled natural setting of the HHSEGS project site, would meet the NRHP standard. The project's construction of towers and mirror arrays would violate this standard.
>
> *Feeling*—although intangible (the Bulletin says) is evoked by the presence of physical characteristics that reflect the historic scene. This relates to the standard of modern-day visitors being able to vicariously enjoy the experience of travelers on the OSNHY/MR. The project's construction of towers and mirror arrays would violate this standard.
>
> *Association*—the direct link between a property and the important events or persons that shaped it—is more complicated to assess. However, the definition states that "New technology, practices, and construction, however, often alter a property's ability to reflect historic associations." The project's construction of towers and mirror arrays would violate this standard.

4. Segments of the OSNHT/MR near the Nevada state line and the associated complex of freshwater springs must be considered as having high potential for registration to the National Register of Historical Places.

Stump Spring and the others in the spring complex at the foot of the Spring Mountains (the complex includes Hidden Spring, Le rocher qui pleu, Brown Spring, and Mound Spring), mark a key transition point on the trail route. Las Vegas, with its huge spring and good forage, and the Spring Mountains both supplied good water and animal feed on the way to Stump Spring.

The spring complex at the foot of the mountains, however, marked the beginning of a long desert stretch that only ended with the descent down Cajon Pass into

the Los Angeles basin. From Stump Spring onward the way to Los Angeles became more difficult for men and animals. Steiner notes that the section from Salt Spring to Bitter Spring in California was one of the most difficult passages of the entire OST. "It took at least a day and a half to travel from Salt Spring to Bitter Spring and there was no reliable water source ;in between. Many oxen died on this part of the Trail." At Stump Spring (or others in the complex), travelers knew that this hostile stretch of trail lay ahead.

The significance of Stump is manifest. It appears on nearly every 19th century map showing the OST/MR in this area and it is mentioned in numerous travellers' accounts (Fremont 1845, Pratt cited in Hafen and Hafen 1993, Lorton 1849). Stump and the other nearby springs were key stopping points on the OSNHT/MR. Under the criteria outlined in Sections 1, 2, and 3 above, OSNHT/MR segments and the associated springs must be considered as high-potential candidates for nomination to the NRHP.

5. California's State Historic Preservation Office should have been consulted under provisions of the National Historic Preservation Act.

Applicant's report states that the NHPA and Executive Order 12372 require that potential effects of an undertaking on historic properties are presented to the State Historic Preservation Office (CH2MHILL 2012:5-1).

OSTA wishes to know whether the California SHPO was notified and to see their written response to the notification.

6. The CEC must consider not only the impacts of the HHSEGS plant, but the cumulative effects of HHSEGS with other projects upon the area.

OSTA is concerned about the cumulative effects that the HHSEGS project will have, both on the OSNHT/MR, the adjacent springs, and the surrounding desert environment.

Two other possible solar projects are planned for the area near HHSEGS. As Figure 1 (following page) shows, the Sandy Valley Project and the Element Solar Project both fall partly within a six-mile radius of HHSGES.

The combined effect of these projects, proposed on vast tracts of relatively undisturbed open land, will result in fundamental changes in how the desert and the OSNHT/MR are experienced by the public. The cumulative effects of these projects will also result in substantial impacts to a wide range of environmental resources in the local desert. These include impacts to biological resources and ground water.

To ensure that desert solar projects are sited in appropriate locations, using appropriate technologies to avoid impacts to our nation's natural and cultural heritage, it is imperative that landscape level analyses be conducted to fully

evaluate the implications of the widespread deployment of renewable energy projects and their associated support facilities, on public lands. This is crucial in the case of HHSEGS because:

- the cumulative effects of the three proposed projects would effect BLM-owned lands in Nevada and nearby BLM-owned lands in California.
- the plants' associated support facilities will be substantial. These include dozens of miles of new transmission lines and service roads and a large gas pipeline to supply HHSEGS. The transmission lines and gas pipeline will impact BLM lands in Nevada.

7. The CEC must consider the cumulative effects of HHSEGS and the other projects on visual resources, i.e., the desert landscape and the ability top vicariously experience the OSNHT/MR.

The two towers proposed for HHSEGS are each 750 feet tall. This is nearly three-quarters the height of the Empire State Building. The towers will be visible for miles and will place a strong visible imprint on the Pahrump Valley. Should there be a second phase of the project, or should either of the two nearby proposed projects (Section 6, above) erect towers of similar height, the area from Nevada Highway 160 to Charleston View, California, would become a virtual forest of skyscraper like towers.

Such a collection of huge, industrial structures will destroy the broad desert vistas the area now affords. It will also destroy the historic sense of place in what could be classed a Rural Historic Landscape (Section 3, above).

*** *** ***

Conclusion: HHSEGS Will Do Irreparable Damage to the Old Spanish National Historic Trail and the Later Period Mormon Road; to associated historic sites, particularly springs used for watering and forage; and to largely unspoiled desert landscape.

The Hidden Hills project, if approved, would forever change the landscape of the local area and irreparably degrade the integrity of the OSNHT, both on the project site and closely adjacent areas. These adjacent areas include freshwater springs intimately related to use of historically significant transportation corridor represented by the OSNHT and the Mormon Road, which followed much the same route after 1848.

The damage to the OSNHT/MR and the surrounding landscape will diminish the public's experience and understanding of the historic expeditions (including the Col. John C. Fremont' 1843-44 expedition) that used the trail and impact cultural understanding of the Mexican period (1821-1848) and succeeding American period (1849-ca.1900) in this largely unexploited desert portion of California.

In short, the project area and its surroundings comprise a jewel in California's desert lands. The high peaks of the Spring Mountains form a dramatic backdrop to a vast sweep of visually pure desert extending westward.

This land at the foot of the mountains has been the site of a well-documented, ancient travel corridor, over which American Indians traded goods in a network that extended from the Pacific Coast well into the Great Basin (Hafen and Hafen 1993, Crampton and Madsen 2007, Myhrer et al 1990, Lyman 2004). The OSNHT/MR adapted that water source-to-water source pathway to their travel needs—creating the mule caravans of the OST and the wagon trains of the American period.

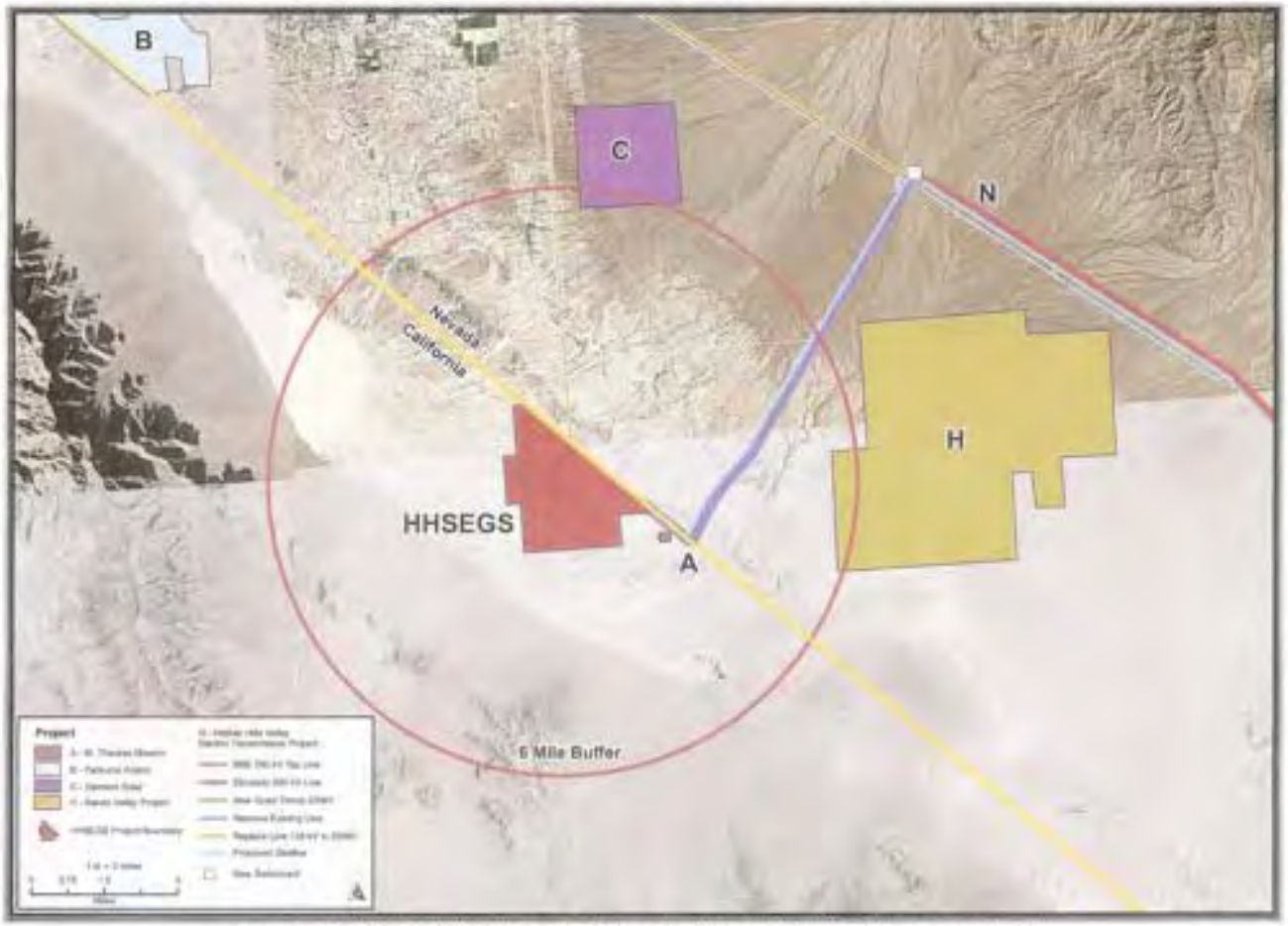
In light of this irreplaceable heritage, a high-potential site for nomination to the National Register of Historic Place, OSTA reiterates its position: HHSEGS is the wrong project in the wrong place. The mitigation measures proposed in the PSA, CUL-9 and CUL-10 are palliative afterthoughts that will do little to compensate for the massive damage done to a historically important transportation corridor and to the desert landscape. Short of sacrificing part of our national heritage, there is no alternative but to relocate the proposed solar project.

###

Figure 1. Map showing proximity of HHSEGS to other potential solar plants

CUMULATIVE PROJECTS - FIGURE 2

Hidden Hills Solar Electric Generating System (HHSEGS) - Cumulative Projects within a Six Mile Buffer of HHSEGS Boundary



CALIFORNIA ENERGY COMMISSION, SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: BLM Southern Nevada District - Renewable Energy in Southern Nevada, BLM California - Renewable Energy Priority Projects, and Los Angeles Department of Water and Power.

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APPLICATION FOR CERTIFICATION FOR THE HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM

Docket No. 11-AFC-02

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(Revised 9/20/12)

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DECLARATION OF SERVICE

I, Cenne Jackson , declare that on December 21, 2012, I served and filed copies of the attached, dated December 21, 2012 . This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: [http://www.energy.ca.gov/sitingcases/riomesa/index.html].

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(*Check all that Apply*)

For service to all other parties:

__x__ Served electronically to all e-mail addresses on the Proof of Service list;

__x__ Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

__x__ by sending electronic copies to the e-mail address below (preferred method); *OR*

____ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 11-AFC-4
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

____ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
Sacramento, CA 95814
mlevy@energy.state.ca.us

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Originally signed by Cenne Jackson